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Resident Physician

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Educational Requirements of the American Board of Surgery

National Institutes of Health and Clinical Center

For the Public Good

Locating Your Practice

Wanted: Summer Camp Physicians

. . . And Baby Makes Three

May 1958, Vol. 4, No. 5

Journal for the Hospital Staff Officer

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Resident Physician

May 1958, Vol. 4, No. 5

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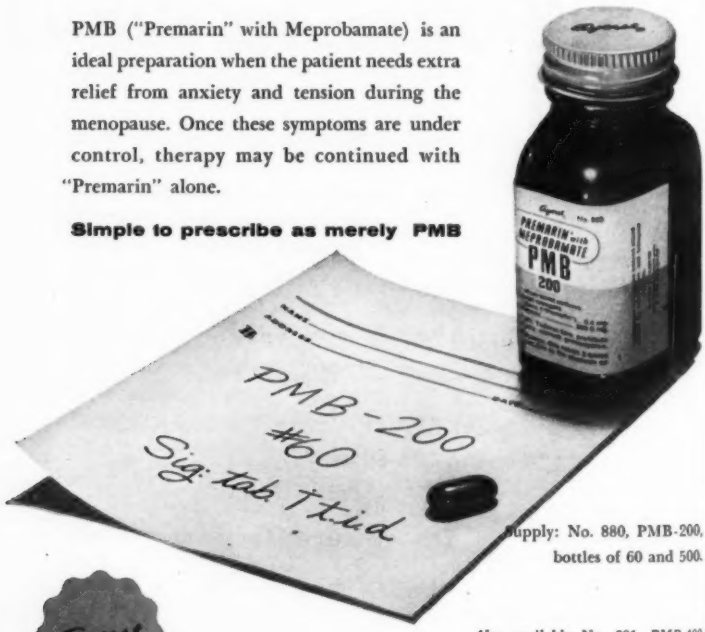

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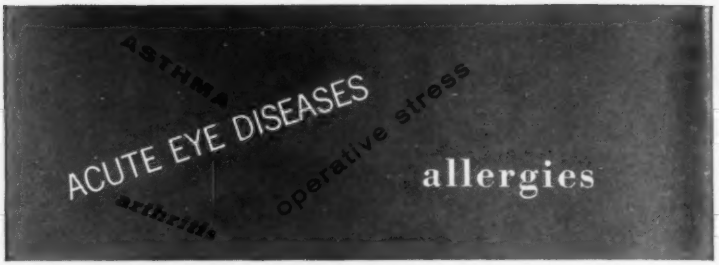

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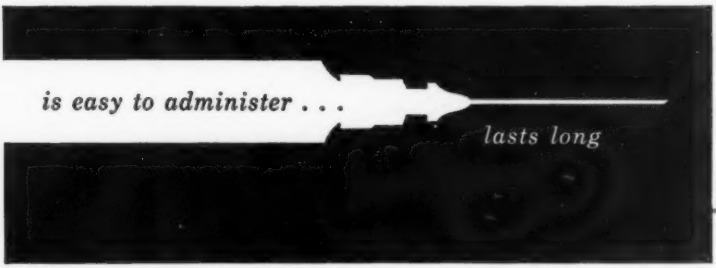

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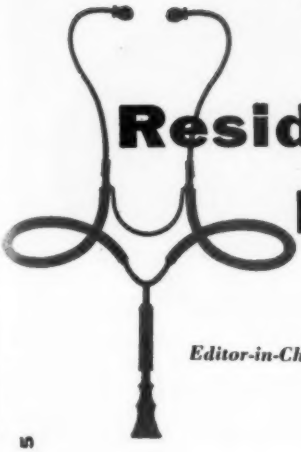

Resident Physician

May 1958, Vol. 4, No. 5

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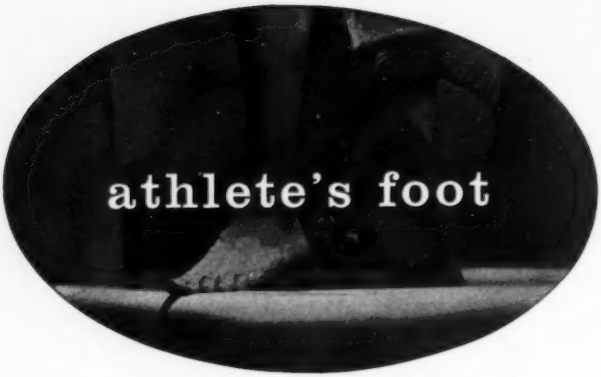

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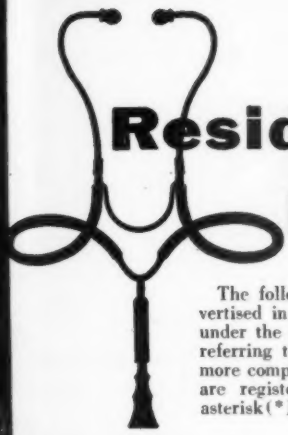

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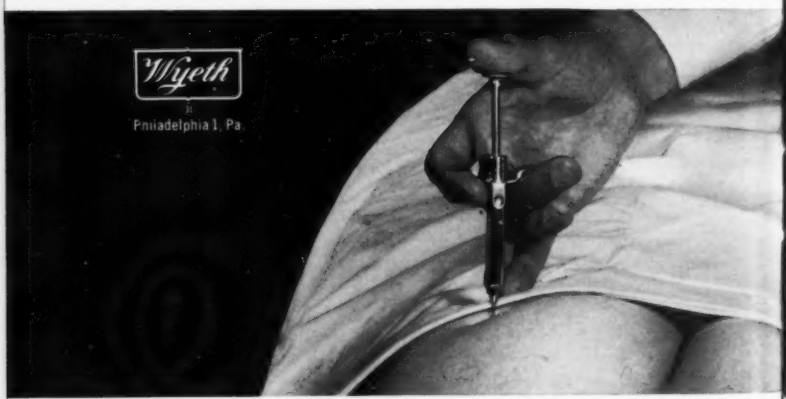

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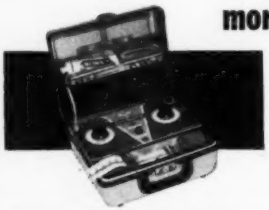

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Viewbox Diagnosis

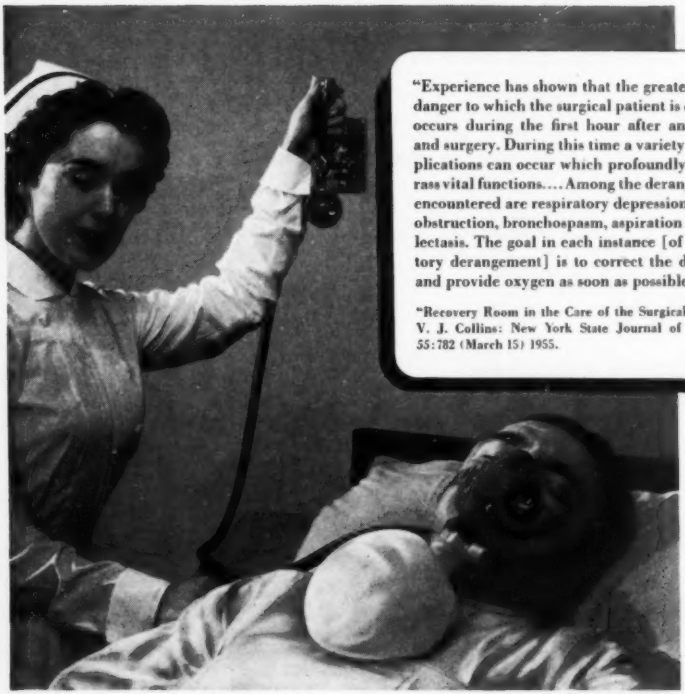
Edited by Maxwell H. Poppel, M.D., F.A.C.R.,
Professor of Radiology, New York University College of Medicine
and Director of Radiology, Bellevue Hospital Center

What Is Your Diagnosis?

1. Healed fracture
2. Bone infarct
3. Artefact
4. Bone tumor

Answer on page 193

During postoperative recovery O_2



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"Recovery Room in the Care of the Surgical Patient," V. J. Collins: New York State Journal of Medicine 55:782 (March 15) 1955.

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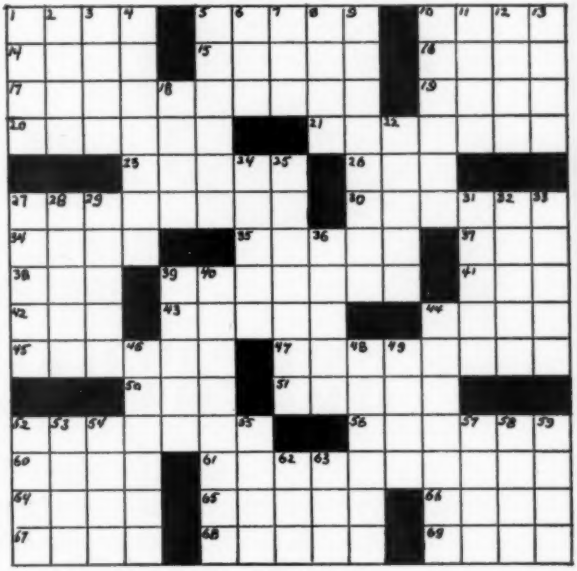
(Answer on Page 193)



ACROSS

A surgical needle
Lard
The ultimate unit of an element
—— in; completely exhausted (colloq.)
City in Northern France
Increases unit it prefixes 1,000,000 times
Inequality between corresponding limbs
Ailments
Official measurement of weight of coal or grain
Frames to prevent contact of bed-clothing
—— Strait; channel off the N.W. coast of Wales
201
Judicial inquiries into cause of death
Pivotal (as of a joint)
Group of notes sung all in one breath; lung diseases start with same root sound but with Greek spelling
Where you get sent when you have a fever
—— hand; a hand having the thumb and digits at right angles
Most doctors have many pills ——
Causing or showing love
—— mater; the vascular membrane investing the brain and spinal cord
Conjunctions
Base of boric acid
Decorticate lung (colloq.)
Medicinal liquid
Club-foot with inversion of the foot
——caine, anesthetic
Ether containing acid and alcohol radical
Distend
Existing without end (poetic)
—— the Red; Norwegian explorer
Bear
——tode, "threadworm"
Choice
Chilled
Air Service Signal Corps (abbr.)
Covered walks (Greek)
——pool, receptacle for waste

DOWN

——'s Apple; prominence of thyroid cartilage
Triangular light area on the drum-head
Standard of comparison
Genus of African plants some of which yield oil of benné

5. —— Reagent for blood
6. Decease
7. A kind of joint of piping or tubing
8. ——ate, lap over and suture
9. Vesical sound
10. Starch in a state of solution
11. Relate history
12. What the recuperating male is said to do at the pretty nurse
13. Aggregation of matter
18. S-shaped curve or line
22. Filled with a sour substance
24. —— of Rose; oil
25. Useful Radioactive elements
27. Product of the putrefaction of proteins in the intestines
28. Relating to the nerve structure (prefix)
29. Hunt
31. Yawner
32. Stake, javelin, pike (Fr.)
33. Has to do with
36. Ossa
39. Miscarry
40. Eye-glass of one lens
44. Affected with slight paralysis
46. Emetic
48. Kiloliters
49. Mountain sickness
52. Great bridge across Zambesi River
53. Very (Fr.)
54. Edges of something circular
55. The ——; cripples
57. Oryza sativa
58. Negative votes
59. Terminations
62. Organization out for more public health control (abbr.)
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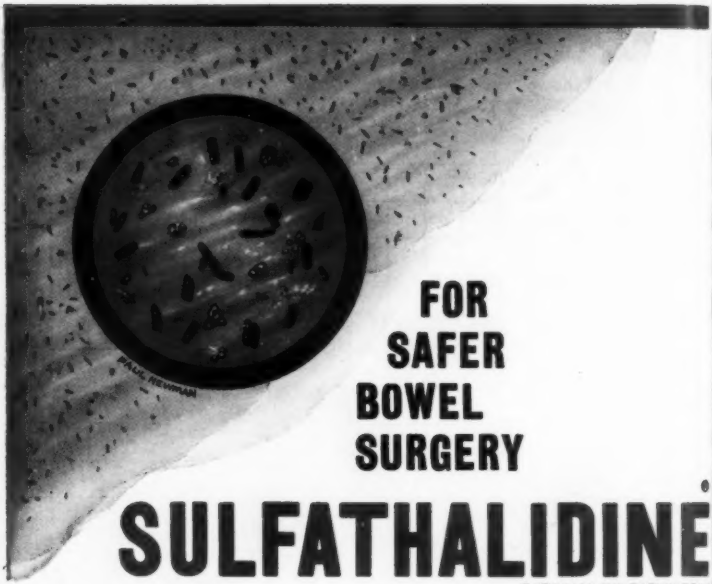

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Letters to the Editor

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Surgery Office

Several years ago, you printed in your monthly RESIDENT PHYSICIAN a series of articles concerning the necessary equipment, etc., for opening a practice in the various medical specialties. I would very much appreciate a reprint or copy of the magazine concerned with the opening of an office for general surgery.

Harold Friedman, M.D.
New York Medical College
New York, N. Y.

Reprints

Please let me take this opportunity to thank you for sending me the RESIDENT PHYSICIAN regularly. It certainly is an educational and enjoyable addition to my other journals. I did not receive the October 1957 issue but read Dr. W. R. Williams' letter to the editor praising the article on the practice of pediatrics which appeared in that issue. If copies of that particular article are still available, I wonder if you would please send me a reprint. Thank you.

Saebert Chamikles, M.D.
Bronx Municipal Hospital Center
Bronx, N. Y.

Language Problems

I have read the article "Language Problems of Foreign Physicians" by Drs. Slager and Ballinger in the February issue of RESIDENT PHYSICIAN. I realize how difficult it would be for anyone to learn to speak and write a foreign language for the first time, especially during the adult years of one's life. In this particular instance, the language problems and difficulties of foreign physicians in general with the English language.

I am one of these foreign physi-

—Continued on page 3

RESUSCITATION FOR CARDIAC ARREST
by Claude S. Beck, M.D.

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—Continued from page 32

cians myself and I know what an unpleasant experience it is for one not to be understood. However, this much I can say, that for those of us from the Philippines and who are now in these United States as interns, residents and fellows, English is not a new language. By this I mean that English was taught to us since grade school and carried through college. As a matter of fact, it has been and still is the medium of instruction in our schools back home. In our medical schools we used American textbooks; even books by Filipino authors are written in English. Classroom instructions as well as clinical work, oral and written examinations including government medical board examination are all conducted in English. Basically, therefore, we have been exposed to the English language all the way down from grade school up to the time we get our license to practice medicine. And for those of us who are here to learn American medicine, our knowledge of the English language has proved to be a gratifying advantage. Of course, I cannot claim that everyone of us has a very good command of the language, yet I personally feel very fortunate to have learned to read and write English with relative facility before I came to this English-speaking country. There is one thing, though, that I want to point out that is very important in any language and even within the language, and that is the matter of accent and pronunciation. While we are very much aware that such problems exist, at least I feel that there is a lot of room for improvement through individual initiative and as the days go by, we will learn or at least endeavor to learn to speak English the American way.

S. Y. Hallazgo, M.D.
Lutheran Hospital
St. Louis, Mo.

Useful Article

The September 1957 issue of RESIDENT PHYSICIAN carried an article by Mrs. Esther Swartz, a former staff member of the Institute of International Education. We have found this article to be very useful in our counseling and would like to have a copy of this edition or a reprint, if possible. I would be most appreciative if you could send us one copy of this article which, by the way, has elicited many inquiries from your readers.

Mrs. Jean Grunberg
Institute of International Education
New York, N. Y.

• *We are glad Mrs. Swartz' fine article, "A Year Abroad," hit the mark.*

Reference Copies

I am a licensed resident physician in the state of New York who graduated from the University of Geneva

—Continued on page 44

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—Continued from page 38

in Switzerland but am an American citizen by birth. I am interested in practicing in another state and would like to know where I could have reciprocity and where I am permitted to take state boards. I am familiar with your series of articles that began in March, 1957 covering this subject and would therefore like to request reprints or back copies since I have been unable to obtain these issues. Your kind cooperation is sincerely appreciated.

M. T. A., M.D.

New York, N. Y.

• *Sorry to report that we've run out of back copies with the exception of a few recent issues of RP. There are reference files of RP in most hospital libraries in New York City.*

CPC

I was surprised and somewhat let down, to say the least, in finding no mention of Goldblatt's work in your January Clinico-Pathological Conference. He was not even mentioned in the reference material, yet his work along the line of "Renal Origin of Hypertension" extends

—Concluded on page 50

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—Concluded from page 44

back at least to 1928. His monograph by that name is well worth reading. Apparently this case is a typical "Goldblatt kidney" and has no relation to malignant nephrosclerosis.

Robert H. Bossert, M.D.
Hospital of the Good Samaritan
Los Angeles, California

• *We passed your letter on to the Cleveland Clinic Foundation and received the following reply:*

Your letter of comment regarding the clinico-pathologic conference on Renal Hypertension has been referred to us for reply. We are, of course, quite cognizant of Dr. Harry Goldblatt's basic contribution to the understanding of the disorder which was discussed in the clinico-pathologic conference. It has been usual to insert only a limited number of references in reports of pathologic conferences and customarily only more recent, particularly pertinent references are appended. You may be certain that in the references published, Dr. Goldblatt is given full credit and we wish to assure you further of our great admiration for his pioneer work in this field.

Lawrence J. McCormack, M.D.
Department of Pathology
Eugene Poutasse, M.D.
Department of Urology
Frank E. Bunts Educational Institute
Cleveland Clinic Foundation
Cleveland, Ohio

Perrin H. Long, M.D.

Editor's Page

Looking Ahead to 1975

Important changes in our population spell fundamental changes in our way of living

We are witnessing a phenomenon which is having and will have a profound effect on the life of each of us, on the future practice of medicine, and on the economy of our country. The phenomenon to which I have alluded is the combination of our increasing expectancy of life and the continuing high birth rate, which this country has had for more than a decade.

Recently, *Population Index** published data which was presented at the 1957 meeting of the Population Association, which was held May 4 and 5 in Philadelphia.

Under the chairmanship of Dr. Frank W. Notestine, Office of Population Research, Princeton University, a symposium was held on "The Size, Composition and Distribution of the U. S. Population in 1975" at this meeting.

**Population Index*, vol. 23, no. 2, pp. 201-211. July, 1957.

Initially, Conrad Taueber of the U. S. Census Bureau reported that if current projections for population growth to 1975, using the present fertility rates (25.4 births per 1000), are valid, those under 20 years of age in our country would number about 92 million, while the total population of the U. S. would be 228 million. However, if the rates of 1939 prevail (18 births per 1000), there will be 70 million persons in the country aged 20 years or younger, and the total population will number 206 million individuals.

According to these projections, instead of our population becoming older it is actually growing younger. In 1920 the median age of our population was 25, in 1951 it was 30 years, and in 1975 it is predicted that the median age will have fallen to 26 years. Come what may, we have rapidly exceeded all predictions on the status of our population which were made prior to World War II.

The question of the color and nativity of our population in 1975 was discussed by C. O. Pierce of the University of North Carolina. He pointed out that from 1910 to 1950 there was a decrease from 14.5 to 6.5 percent in the foreign born in this country. By 1975 it is expected that only 3 percent of our population will be foreign born.

Present data indicate that a radical increase in the non-white population in this country is not to be expected, and that in 1975, 12 percent of our people will be non-white citizens. However, the distribution of this segment of our population will change. Whereas in 1900, about 90 percent of our non-white population resided in the Census South, and in 1950 this percentage was 68, it appears that by 1975 more than 50 percent of our non-white population will be living outside of the Census South, and will be concentrated in urban areas in the Northeast, and North Central states, and California. New York City (and especially Brooklyn) will experience a marked increase in its non-white population in the next 17 years.

Population

From the point of view of members of our profession, the predictions as to the future distribution of the population of the United States are of special interest, as they give us indications as to favorable areas for practice in the future. This was discussed at the symposium by J. S. Siegel of the Census Bureau. States in the West will continue to gain rapidly in population, and by 1970 about one-eighth of the population of the U. S. will reside in the Pacific States.

Our current ten largest states will also gain in population, so that by 1975 more than 56 percent of the population will live in these states. Populations in city areas proper will decrease (New York City seems to be experiencing this already), but both the population, and the population density, will go up in surrounding metropolitan counties.

By 1975 a population larger than that inhabiting the continental U. S. in 1950 will be living in the 200 major metropolitan areas in this country, if current fertility rates prevail, according to the data presented by R. P. Cuzzort, University of Chicago.

At the present time, 58 percent of the population of a standard metropolitan area lives in the central city. By 1975 this should fall to less than 50 percent. Currently, 38 percent of our population living in metropolitan centers of over 100,000 persons is domiciled in the Northeastern states. By 1975 this percentage will fall to 32. In 1900, today's principal metropolitan areas of the West and South contained one-fifth of the metropolitan population. In 1975 it is estimated that these areas will contain over two-fifths of the metropolitan population. This would amount to more than sixty million persons.

Education

We have already heard the initial rumblings of the crisis in educational facilities which is developing for the ele-

mentary-school age group over most of the country. The data presented by C. M. Frisen, Department of Finance, State of California, on the possibilities for school and college enrollment in 1975 should make us all stop and think. If current fertility rates are maintained, there will be about 40 million elementary school children, about 16 million high school students, and 9 million college students in 1975. Today we count about 27 million elementary, 8 million high school, and 3 million college students.

In 17 years the number of high school students will have doubled, while the number of those in college will have tripled.

Where the money for these educational facilities will come from will constitute a major headache for educators and taxing authorities alike. Certainly, for one thing, education will have to be reduced to fundamentals; and frills, both in plant and in curriculum, done away with.

One can add that if this population trend continues, about 300,000 practicing physicians will be needed by 1975.

With our medical educational facilities jammed, and with no real expansion in view, where these additional physicians will come from (unless from foreign countries) is problematical.

If current predictions are borne out, the slogan in 1975 will be "full employment for ninety-four million workers." This will be the estimated labor force in that year. It will be a younger labor force than today, and a little over a third of this force will be women. At that time, according to D. L. Kaplan of the Census Bureau, the working week will not be four days, nor will the working day be six hours, but rather a thirty-five-hour work week. He feels that workers and their families will want a sharply rising standard of living too strongly to permit a revolutionary cut in hours-input to ruin gains in productivity.

Kaplan also believes that the number of employed indi-

viduals holding second (part-time) jobs will increase markedly. The thirty-five-hour week facilitates this for the worker and also creates part-time jobs.

The journey to work will be different in 1975, according to L. F. Schore of Michigan State University. He points to two outstanding trends in commuting: 1) the average distance between home and work is increasing; and 2) a progressively higher proportion of to and from work transport is by private vehicle.

He does not believe that the outward thrust of the residential population will be curbed in the near future, and he expects the current decentralization of work places and buying areas to continue.

With such types of decentralization over the country, lateral movement in complicated crosscurrents of commuter traffic will become increasingly common, thus slowing down the rate of travel and increasing the time of the trip to work. It is of importance to remember that when autos are used for commuting, the road and its maintenance are often paid for by others than the commuter. However, he himself pays in time, money, and energy for commuting.

Despite the probability that the power and speed of automobiles will be increased by 1975, that families owning cars will be more numerous, and that congestion on highways will be greater, as the mileage of our roads and streets will not increase much, it is believed that the present fatality rate of 6.3 per 100 million vehicle miles will be reduced to 4.6 for all roads, and on interstate roads to 3.3. Our greatest number of deaths on the highways was 40,000 in 1956. In 1975 it is estimated that 51,000 traffic fatalities will occur, according to S. T. Hitchcock, Bureau of Roads.

Marriage and family

Just after World War II, in 1946, there were 2.3 million marriages in the U. S. Currently, about 1.5 million marriages are taking place each year. This number will grow

slowly for the next few years simply because the late 1930s were relatively lean years as far as babies were concerned. However, beginning about 1960 a gradual pickup in marriages will occur as a reflection of the increasing birth rate in the war and post-war years, and in 1975, it is estimated that 2.1 million marriages will take place and that the median age of the women being married will be 19.7 years. Between now and 1975, households containing a wife and husband may be increased by 13 million, and there may be 50 million such families in the United States, with the total number of households of all types (married, single, etc.) increased from 20 million to 67 million. At that time, according to E. Landau of the U. S. Census Bureau, new households will be increasing at a rate of more than a million per year.

Currently, and this will be true until 1965, the population outside of the working ages is growing two to three times as fast as that between the ages of 20 and 65. The fact that we are currently witnessing, in our relative lack of unemployment, the effects of the low birth rates of the 'thirties and early 'forties must be understood by all who are interested in our economic scene. Furthermore, this factor will make the current transition to automation easier.

However, in a few years, 1965, we will see the large birth classes of the postwar period entering the labor force. If our current birth rate is maintained, however, the number of persons outside the working force will still number more than those who constitute the labor force.

To the contrary, if the birth rate should fall back to its level of the 1930s, then *the population of the working group would increase four times as rapidly as that of the dependents, and the U. S. would be forced to make major and sharp economic adjustments to this new situation.*

Thus, it would seem that the maintenance of our current economic system and of our standards of living from now

on appear to require a high birth rate, whether or not we like the idea of our country becoming more and more crowded.

Agriculture

There appeared to be considerable discussion and difference of opinion at the symposium relative to the makeup of the farm population and agricultural labor force in 1975. To begin with, there is no question but that the farm population is decreasing. Between 1910 and 1956, roughly 10 million people were lost from the farms. Currently, 13 percent of our population is made up of farm dwellers, and almost 7 million people are in the agricultural labor force. Estimates of the size of this force in 1975 vary from 5 million, as postulated by Professor Black, to 2 million, as estimated by Professor Colin Clark. L. J. Ducoff of the U. S. Department of Agriculture, in reviewing these predictions, thought that the agricultural labor force would number 4.6 to 5.2 million people in 1975. Any way one looks at these data, the fact remains that both farm population and agricultural labor force will show further decreases by 1975. It would appear that the economic position of the farmer would be markedly improved, while his political importance as a voting bloc will have declined appreciably at the national level.

Senior citizens

Bruce Waxman of the University of Chicago presented interesting data on old people in 1975. At that time, about 21 million of the population (12 million females, 9 million males) will be over 65 years of age.

Of this group, 16 percent will be foreign born. It seems likely that this group should be better prepared for being senior citizens than are those in our aged ranks at present; roughly one-third of these individuals will be high school graduates, and 13 percent of them will have had one or

more years of college. The majority of these older people will live in urban areas, and because of climatic conditions, many will be in the Gulf states or in the states of the Southwest. In these states it is likely that the elderly will be politically significant.

The labor-force participation of the older age group is expected to decrease percentage-wise by 1975, but because of the increased number of people in this group, there actually will be about one million more older individuals participating in the labor force than at present.

This older group will be of great interest and significance to physicians. It is estimated that at least a quarter of them will have a permanent disability. This disability will be minor in 40 percent and major in 60 percent of this group. Data was presented at the symposium which indicated that one can expect 11.3 million instances of disabling illness of one or more days' duration in the older age group, and as would be expected, arterial disease (heart, stroke, renal) will produce the majority of deaths. There can be little doubting the fact that illness in these older citizens will be one of our major problems as physicians in practice in 1975.

Health needs

An alarming phenomenon that many of us are greatly concerned with today is the data which indicate that hospital facilities are rapidly falling behind the health needs of the ageing population. In the period 1946-1952, hospital beds of all types increased at an average rate of 1.2 per annum. If this rate of increase is maintained, the number of general hospital beds should increase to 734,000, thus making the rate of 35.5 general hospital beds per 1000 population of 65 or over.

Currently, there are over 42 general hospital beds per 1000 aged.

This means that the average yearly accretion rate of

general hospital beds must essentially be doubled in the next 17 years, if the ratio of general hospital beds for the aged which exists today is to be maintained.

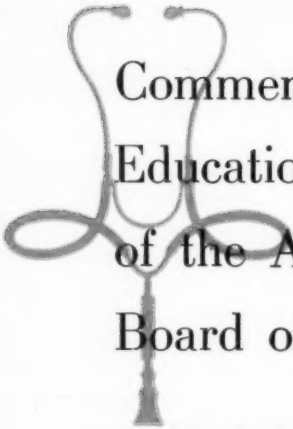
One cannot help but look on the health and social problems of our older citizens with increasing pessimism. Politicians and professional do-gooders are shrieking to the housetops about their interest in the aged. Committees and councils for the problems of the aged are organized and reorganized. Politicians and political administrators appoint, fire, and reappoint coordinators, directors, and investigators of problems of the aged. Legislators at the local, state, and national levels are all for the aged on election day but do little else but talk about them at other times.

And while all of this noise is being made about the aged, actually very little is being provided in the way of adequate housing, recreational centers, medical and eventual care facilities for these people.

The reason for all of this is simply that proper maintenance of these older individuals costs money, and to date neither we as citizens, nor the politicians as politicians have thought it worth while to spend the money which would be needed to meet this problem in a rational fashion.

In fact, from what I see of the problems of many older people, the attitude of their relatives and of society in general can be best summed up in the old phrase, "Out of sight, out of mind." And 1975 is only 17 years away.

Perrin H. Long.



Comments on the Educational Requirements of the American Board of Surgery

Defining suitable educational qualifications for surgeons was one of the Board's first problems. Requirements are discussed here in terms of the residency training necessary for certification.

John D. Stewart, M.D.
Chairman, American
Board of Surgery

Although the need for an accrediting board of surgery in this country had been recognized for years by leaders in the profession, the eloquent appeal of Dr. Edward W. Archibald in 1935 for a higher degree in American surgery may be considered as a major stimulus toward the formation of the American Board of Surgery.

Dr. Archibald's address, as president of the American Surgical Association, should be read by everyone interested in graduate medical education.[1] Suitable planning committees of leading surgeons were set up and in 1937 the

American Board of Surgery was founded, by incorporation in the State of Pennsylvania.

The first Part II, or oral and practical examination, was held in Philadelphia in May 1938. The founding officers were Dr. Evarts A. Graham, Chairman; Dr. Allen O. Whipple, Vice-Chairman; and Dr. J. Stewart Rodman, Secretary-Treasurer.[2] The 17 members of the Board now represent the eight outstanding national and regional surgical societies of this country. The members usually serve for six years.

Number certified

During the calendar year 1957, 878 candidates took the Board's Part I examination and 908 candidates took the Part II examination. From the founding of the Board in 1937 to the end of 1957, 7909 general surgeons have been certified by examination. This number does not include the surgeons certified in the Founders' Group.

The Part I examination in the past has been held twice a year simultaneously in many centers throughout the country and in some military installations abroad. After 1958, it will be held once a year in the late fall. The Part I examination requires a half day and is a short-answer, objective, multiple-choice type of examination. It is prepared with the help of the Educational Testing Service.

The Part II examination is a practical oral examination held ten times a year in medical centers throughout the country. There is a morning and an afternoon part for each candidate, and the preclinical disciplines are integrated with clinical surgery in the examination. The examining team is composed of a member of the Board and an associate, or guest examiner.

The Part III examination, which is given occasionally on special indications, is a demonstration before a Board member of operative skill and clinical acumen in the care of surgical patients.

Purposes

The stated purposes of the American Board of Surgery are threefold:

- To conduct examinations of eligible candidates who seek certification by the Board
- To issue certificates of qualification to all those meeting the Board's requirements and satisfactorily completing its examinations
- To improve the opportunities for the training of surgeons

From the start, therefore, the Board has been concerned not only with giving examinations, but also with the problem of defining suitable educational qualifications and with the promotion of better opportunities for training surgeons.

DR. STEWART *is Surgeon-in-Chief, Edward J. Meyer Memorial Hospital, Buffalo, New York, and Professor of Surgery, University of Buffalo Medical School.*

Training committee

The interest of the Board in the quality of the resident's educational opportunity has been at least partly responsible for the formation of the Conference Committee on Graduate Training in Surgery. This committee is composed of nine members representing the American Board of Surgery, the American College of Surgeons, and the Council on Medical Education and Hospitals of the American Medical Association. It has the duty of surveying residency training programs in surgery in this country and classifying them according to their education content. It compiles the approved list published each year in the Internship and Residency Number of the *Journal of the American Medical Association* and in the *Bulletin of the American College of Surgeons.*

The Conference Committee renders an important service to young surgeons in guiding them and in protecting them from exploitation in hospital service functions. Both the American Board of Surgery and the Conference Committee publish yearly booklets of information which are freely available.[3, 4]

To qualify for the examinations of the American Board of Surgery at present a candidate must meet the following requirements:

- Be a graduate of an approved medical school.
- Complete an acceptable internship of one year's duration.
- Complete at least four years of additional surgical education including the senior year, in a hospital having a curriculum approved for four years (Type 1); or complete three years of work, including the senior year, in a hospital approved for three years of training (Type 2), and two years of further training in the preceptorial category.
- Be engaged in the practice of surgery.
- His ethical standing in the profession and his moral status in the community must be satisfactory to the Board.

Candidates who complete four years or more of training, including the all-important senior year, in a hospital having Type 1 rating by the Conference Committee, are classified by the Board as Group 1 candidates. If the candidate has completed three years of residency, including the senior year, in a hospital holding Type 2 rating, he is classed as a Group 2 candidate, and he must have two further years of surgical experience. The two additional years of training may be spent in various ways, such as working in private practice with a preceptor approved by the American Board of Surgery, or taking specialized surgical training as in cancer or pediatric hospitals (listed as Type 4 by the Conference Committee).

Teacher

Those who have personally been much concerned with the education of surgical residents will probably

agree that the better residency training programs have certain features in common. These essential features will be listed and discussed briefly in the light of my own views.

The chief of the surgical service: There is of necessity much of the preceptorial and practical in surgical teaching, for surgical skill is not acquired from lectures or books. Long and intimate contact with a devoted chief of surgery who is himself engaged in surgical care is the backbone of the best surgical educational program. The chief must be an able surgeon and a willing teacher, he must have time for the responsibility and he must not have taken on too many residents. The resident's opportunity must not be watered down by expansion of numbers to facilitate the care of patients. The chief must keep uppermost in his mind education and the personal instruction of his residents. It is not necessary to add that the chief's moral attributes, his ways with patients and even his philosophy of life influence the resident's outlook and condition his reactions.

The senior year: The surgical residency training program should provide progressive responsibility for the resident as well as continuity of supervision. In his senior year the resident should have a chance to make independent decisions and to accept personal stress at the operating table. It is far better for him to obtain essential operative skill under close observation and with proper safeguards to the patient, than to have to obtain this experience entirely on his own private patients.

As senior resident, whether this be in the third year of a Type 2 program or in the fourth or fifth year of a Type 1 program, he should be engaged in teaching junior residents and interns, and ideally medical students as well.

In his senior year the resident should be provided by the hospital with a sufficient number of tutorial beds, so that he has an adequate number and variety of patients for whose care he is responsible. In strictly private hospitals this requires careful planning and wholehearted cooperation by the administrative and medical staffs.

Continuity of training: Ideally the resident's training should be in one hospital and under one chief. Shifting from one hospital to another, or taking time out for military service, is disruptive and impairs continuity of supervision as well as progression of responsibility. In some instances it is desirable to arrange a farm-out to an affiliated hospital to meet specific needs, such as experience in the surgery of women and of children.

The period away from home should not exceed one year in a Type 1 program, and if a Type 2 program is so lacking in facilities as to require the farming out of its residents it probably should not be engaged in resident training.

Each shift in his locale imposes

on the resident penalties of lost time and waste motion, and necessitates reorientation to staff, facilities and intramural procedure. These disadvantages are clearly seen in the rotating type of residency where two, three, four, or even five hospitals are listed under the name of "medical center." In this type of residency the curriculum provided the resident may be designed more to meet the needs of the hospitals concerned than to promote the resident's surgical training.

The quality of clinical material: The American Board of Surgery expects candidates for certification to have had a surgical education characterized by breadth as well as intensity. Some knowledge of the principles of care in the surgical subspecialties is required; to obtain this the resident must usually have spent some time in rotation on subspecialty services such as urology, neurosurgery, and gynecology. The Board is particularly attentive to the candidate's education in trauma, including fractures and cases of multiple injuries, for it is agreed that every broadly trained general surgeon must be competent in this area.

Higher degree

In closing, a comment might be made on the general objectives of certification in surgery. In his address, referred to above, Dr. Edward W. Archibald pleaded for a "higher degree in surgery" in this country. He was concerned with the advancement of surgical education, knowing full well that improvement in surgical practice would surely follow. The educational requirements of the Board from the beginning have been stated in terms of the minimum. The qualifying surgical training may be properly increased in various ways to suit individual aptitudes.

It might be argued that the required training is too long or too rigorous. It must be remembered, however, that it is not expected that every surgeon will be certified. Every college graduate does not wish to go on and win his Ph.D. degree. The design of certification, as I see it, is to promote a high standard of educational fitness rather than a general mediocrity.

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1. E. A. Archibald, M.D.—On the Need for a Higher Degree in American Surgery. Annals of Surgery, October 1935.
2. J. Stewart Rodman, M.D.—History of the American Board of Surgery. J. B. Lippincott Company, Philadelphia, 1956.
3. Booklet of Information of the American Board of Surgery. John B. Flick, M.D. 225 South Fifteenth Street, Philadelphia, Pennsylvania.
4. Guidebook for Residency Programs in General Surgery. Willard V. Thompson, M.D. 535 North Dearborn Street, Chicago 10, Illinois.

Dewitt Stetten, Jr., M.D.

Guest Editorial

Training for a Career in Medical Research

The medical school graduate of a generation ago had limited possibilities in the selection of a career. Full-time, salaried positions in teaching and research were scarce. Virtually his only choices were the area of medicine to which he might limit his practice, the area of the country in which to practice, and the extent of post-doctoral training for such practice.

Today, if he so desires, the young M.D. can eschew the private practice of medicine entirely and still make a worthwhile contribution in the medical world.

In increasing numbers, recent graduates of medical schools are giving serious consideration to a full-time career either in medical research or in some combination of research and teaching. Having discussed their problems with a considerable number of these young men and women, I should like to summarize here some of the aspects to be considered in choosing a career in medical research.

MOTIVATION. The reasons behind the selection of a career in medical research vary widely. Many of the candidates have a deeply ingrained love of research, dating back to high school or college experiences. Some have taken postgraduate training in chemistry, biology,

DEWITT STETTEN, JR.,
Associate Director
National Institute of
Arthritis and
Metabolic Diseases

physics, psychology or mathematics leading to a Master's or Doctor's degree prior to entering medical school. Still others received their major orientation in research while at medical school. This last group may be increasing in number with the happy introduction of more research time and experience into the curricula of some of the more progressive medical schools.

Added to the positive desire to do research, there is a second factor operative in the thinking of many young physicians. This is the wish to avoid the uncertainties of private practice.

OPPORTUNITIES. Whereas a generation ago relatively few positions were available wherein a physician could devote the major portion of his time to research and still hope to earn a respectable livelihood, this situation has gradually changed. Medical schools and hospitals have come to the realization that their reputations, and even their incomes, can be benefited by an increased production of published research. Institutions dedicated predominantly or exclusively to the support and performance of medical research have appeared and have grown in size, supported by private, municipal, state and federal funds. There are today a wide variety of positions available to the physician who wants to do research on a full-time basis, from which he may expect to derive an adequate though surely not a sumptuous income.

Undoubtedly the largest single factor in this change has been the entry of the Government into the support of medical research. Of the many millions of dollars that

have been spent on medical research, a considerable amount has been allocated to the support of intramural programs of the National Institutes of Health at Bethesda, Maryland.

Even more dollars have been provided for the support of individual investigators and in research grants. This money, distributed to medical schools, hospitals, and the like, pays partial or total salaries to all levels of medical investigators. Further, it provides support for technicians and other assistants, and purchases apparatus, chemicals, animals, and other requisites for research.

Large numbers of physicians are availing themselves of this opportunity at many hospitals and at virtually all medical schools. Grants-in-aid and fellowships awarded by the National Institutes of Health and other granting agencies, public and private, make possible the generous support of research and its efficient prosecution which would otherwise be difficult or impossible. It is this increase in available support, more than any other factor, which is making the consideration of a full-time research career possible for so many young physicians.

PREPARATION. Research today in basic or clinical medical science is a complex business. It involves many disciplines including physics, chemistry, mathematics, biology and microbiology. A given problem may require immunochemical methods on one day and electronic engineering skills on the following day. Over and above all the specific skills which may be required is the experience and type of thought which permits one to determine what constitutes a good experiment, and what constitutes a valid proof.

Clearly all these matters cannot be fully considered in the usual medical school curriculum nor during an internship. Some of these matters are the substance of

training received during a course of study leading to a Ph.D. degree.

What advice should be given to the young physician, with or without a couple of years of hospital training, who genuinely desires to become a full-time investigator? Whereas in the past, doctors with no specific training in research have made notable contributions, this era is, I believe, drawing to a close. More and more, as the complexity and diversity of medical research increases, so does the desirability of directed training of the neophyte. An analogous transition occurred over a hundred years ago in chemistry, and in the past century few major advances in chemistry have been made by untrained investigators. The most popular and most effective type of training for chemical research that has evolved is that leading to the Ph.D. or equivalent degree. A similar type of training should prove useful to the would-be medical investigator today.

There is division of opinion whether it is advisable for a young M.D. to secure, in addition, a Ph.D. degree. The second doctoral degree, considered as a diploma, would appear to be an unimportant goal to attain. The type of training, however, which goes into the earning of such a degree would seem to be a useful model to follow.

This training may be analyzed into two components. Far and away the more important of these is an apprenticeship during which the candidate conducts research under the intimate guidance of an experienced investigator. In Ph.D. jargon, this is the "dissertation problem." The question of primary importance here is the excellence of the preceptor. It is interesting that a young Ph.D. is known, not by the school from which he secured his degree, but by the man under whom he worked.

Supplementing this often fairly specialized experience

in the laboratory, the candidate for a Ph.D. degree is usually required to take advanced courses in fields of science related to his special field of endeavor, to permit him, again in Ph.D. jargon, to "qualify" for the degree. Such a program is designed to give the candidate both the concentration and the distribution of skills and attitudes which will be most useful in his later life as an independent investigator.

The program of research training envisioned for most physicians on the brink of a research career may consume two or three years. The candidate may be financed on a post-doctoral fellowship, a research assistantship or an instructorship basis. The training may be secured at any of our major universities or at one of several institutes of medical research. A Ph.D. degree, if earned in the process, certainly does no harm but is not of itself the aim of the program. Rather is it the hope that, upon completion of such a course of study, the candidate will be able to pursue a research problem of his own effectively and at a sophisticated level. He should be a master of many disciplines. When disciplines foreign to his training are required, he will perforce seek collaboration, but to such a collaboration he will bring other needed skills and ideas. This, of course, is the essence of effective collaboration.

Whether we like it or not, we live in an age of specialization. Major advances in engineering, in chemistry or in medicine should be expected to come, in most cases, from men and women who are trained specifically to make such advances. In medical research as in other research areas, a conscious training program is developing, and the physician who is planning to make research his major activity will do well to consider the benefits of such a program.

SPECIAL REPORT

National Institutes of Health and Clinical Center

In addition to extensive research projects conducted "on campus" in its own laboratories, the seven Institutes of the NIH and its Clinical Center administer grants to support research and research training programs throughout the U.S. A unit of the U.S. Public Health Service, the NIH permanent staff totals 7,000 (700 are independent investigators) comprising one of the largest bio-medical research organizations in the world.

Those who work at the National Institutes of Health frequently refer to their 300 acre establishment at Bethesda, Md., as "the campus."

Outwardly this, one of the largest bio-medical research facilities in the world, does resemble a university. Also, the fact that at any given moment a considerable number of NIH scientists either just came from, or are just about to return to an academic environment also helps explain the use of the term "campus." But in addition to externals, a great deal of informal graduate and postgraduate training is inherent in the research at NIH. This, too, helps create an academic aura as does the fact that the lines of investigation at NIH are much the same as those found in the preclinical and clinical departments at any large medical

school and affiliated hospital.

Organizationally, NIH is part of the U. S. Public Health Service. It is responsible for a large segment of the medical research conducted by the federal government. It also administers an extensive program of federal financial assistance to the research and graduate training activities of universities, medical schools, and nongovernmental laboratories throughout the U. S.

Expansion

Scientific research within the Public Health Service began in a one-room laboratory at the old Marine Hospital on Staten Island in New York harbor. This was in 1887 and was directly related to the service's growing responsibility for guarding against the introduction and interstate spread of epidemic disease.

At first confined to bacteriology, the work of the "Hygenic Laboratory" gradually expanded to include pathology, immunology, and chemistry in a fashion paralleling the growth of these disciplines in general medical research, teaching, and practice.

After several changes of location and name, the "Institute" appellation and the Bethesda locale were attained simultaneously in 1938. Immediately following World War II, a decade of expansion began, bringing NIH to its present size, scientific eminence, and organizational complexity.

Today there are seven semiautonomous Institutes, each authorized by Congress and established in part through the interest and support of numerous professional and lay organizations concerned with special fields of medicine and health.

The names of the Institutes indicate their areas of special research interest:

CANCER.

HEART.

ARTHRITIS AND METABOLIC DISEASE.

ALLERGY AND INFECTIOUS DISEASE.

MENTAL HEALTH.

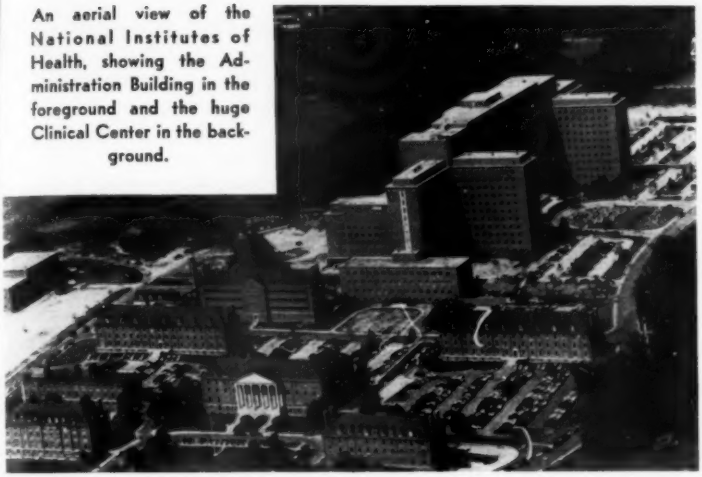
NEUROLOGICAL DISEASE AND BLINDNESS.

DENTAL RESEARCH.

These names also suggest the main reason for the marked expansion of medical and allied research not only at NIH but in every part of the nation — the growth in importance of the chronic diseases and the need for new knowledge on which to build more effective preventive, diagnostic, and therapeutic measures.

Each Institute receives an annual appropriation from the Congress and each administers a two-fold program —direct research, and financial aid to nonfederal research programs through grants and other awards to support research projects and training for research and related careers.

The fundamental nature of most of the research conducted at NIH is indicated by the names of some of the laboratories — cellular physiology and metabolism, immuno-



An aerial view of the National Institutes of Health, showing the Administration Building in the foreground and the huge Clinical Center in the background.

chemistry, cardiodynamics, physical biochemistry, biometry, experimental neuropathology, psychopharmacology, and the like. Each Institute has one or more buildings containing many such laboratories.

A clinical dimension was added in midsummer, 1953, when the huge new Clinical Center received its first patients. (Details of the clinical program are given in the article beginning on page 80.)

Most of the Institutes and a majority of the lesser divisions, branches, and laboratories are headed by physicians and scientists who are officers in the U. S. Public Health Service Commissioned Corps. This Corps is a small quasi-military organization established in 1889 to fight the epidemics then terrorizing the country—"a force of physicians who would keep themselves physically and professionally fit and ready for a call to duty wherever needed."

A few physicians, and a larger number of scientists, statisticians, and other specialists are members of the Federal Civil Service.

Staff and grants

In addition to the permanent staff, which presently numbers nearly 7,000, including some 700 independent investigators, there is a constantly fluctuating population of guest scientists, clinical associates, residents, research fellows, consultants, advisors, lecturers, and visitors representing literally every professional category to be found in the world of clinical medicine and biologically oriented science.

The research grants program is administered with the help of 300 of the nation's outstanding nonfederal scientists, medical educators, and clinicians. These men are organized into technical panels which review grant applications according to discipline — biochemistry, endocrinology, allergy and immunology, surgery, pathology, and others. The panels pass their views on to advisory councils, one for each of the Institutes.

In addition to professional members, each council has a few outstanding lay leaders representing the general public interest. The councils make final recommendations to the Surgeon General of the Public Health Service in terms of the availability of funds, benefits to be derived from the study, and similar considerations. No research grant can be made by the Surgeon General unless it has council approval. Last year approximately $81 million was awarded to more than 6,000 projects in 572 institutions; this year $99.3 million has been made available for such support of research.

Objective

The major objective of these grants is to strengthen research in medical schools, universities and hospitals; stimulate new investigations in neglected fields; and to provide training for scientific personnel. Rigorous effort is made to ensure the scientific freedom of the grantee. He is not required, for example, to follow the original proposal rigidly, but is free to pursue the project in whatever manner he wishes and to publish his findings without clearance.

The research training programs are designed to assist promising young scientists during their training period at institutions of their own choice. Fellowships, for example, are awarded on a competitive basis according to the recommendations of scientific committees with special competence. In addition, NIH awards 5-year senior research fellowships, special research fellowships, traineeships, and other training grants and awards which have been established to assist scientists in gaining further experience in their chosen fields and to provide specialized support for training centers, these being for the most part in the basic and preclinical science specialties.

Contribution

The contribution this latter program is making to the nation's resources of manpower skilled in biological, medical, and related research fields is suggested by data for the current year: Nearly 6,000 fellows and trainees in 340 institutions are receiving individual stipends. Together with training grants that are institutional in nature, the training programs aggregate more than $38 million for the 1957-58 fiscal year.

NIH is committed to the concept that significant interrelationships exist between all natural phenomena, including illness and health, all branches of clinical medicine, and all scientific disciplines.

Dr. James A. Shannon, NIH Director, has recently stated his organization's philosophy, therefore its approach to the solution of discrete scientific problems:

"I believe that medical research does not exist as an independent entity. Rather, it is more of a meeting place for all the sciences. It utilizes the disciplines of mathematics, biology, physics, chemistry, the social and the behavioral sciences. It distills the relevant facts from each of these and synthesizes new systems of knowledge relevant to the alleviation of man's ills."

PHS RESIDENT SALARY

GRADE	BASE PAY	INCENTIVE PAY	RENTAL ALLOWANCE** With Dependents	RENTAL ALLOWANCE** Without Dependents	SUBSISTENCE**
Senior Assistant	(over 4 yrs.) $374	$100	$102	$85	$47

	With Dependents	Without Dependents
TOTAL PAY PER MONTH	$ 623	$ 606
TOTAL PAY PER ANNUM	$7,476	$7,272

** Not subject to Federal Income Tax.

OTHER GRADE SALARY

GRADE	BASE PAY (over 4 yrs.)	INCENTIVE	RENTAL ALLOWANCE** With Dependents	RENTAL ALLOWANCE** Without Dependents	SUBSISTENCE**
Full	$429	$100-150	$119	$ 94	$47
Senior ...	507	100-150	136	102	47
Director ..	631	100-150	136	119	47

** Not subject to Federal Income Tax.

The Clinical Center

Jack Masur, M.D.

When Public Health Service research was on a relatively small scale and devoted largely to infectious disease, clinical study was conducted at the site of epidemic outbreaks of the diseases being investigated. Much definitive work on such diseases as typhus, encephalitis, tularemia, and spotted fever was accomplished in this way. However, as far back as 1911 it was recognized that the lack of a clinical facility hampered the effectiveness of PHS research.

Changing national health patterns led Congress to initiate in 1947 a large expansion of funds for both federal and nonfederal research in the serious chronic illnesses. The Public Health Service's primary research bureau, the National Institutes of Health in Bethesda, Maryland, was given responsibility for a major segment of this expansion.

Accepting only those patients whose disease entities provide an opportunity for study in connection with one or another of the preplanned clinical research programs in progress, the NIH Clinical Center is in reality a special patient care and research hospital. The hospital care program is administered by the Center staff which includes residents and clinical associates. Upon discharge of the patient, the patient's referring physician is sent a detailed report with recommendations for further management.

A view of the Clinical Center, Bethesda, Maryland.

From 1946 to 1958, support of research in medicine and biology through NIH grants to medical schools, universities, and other research centers has increased from $1 million to $99 million and its support of training for research and related careers increased from $\frac{1}{2}$ million to $39 million. Paralleling this national growth has been the progressive strengthening of NIH's own research activities in Bethesda, making facilities for clinical study essential. Construction on the Clinical Center was begun in 1948 and the first patients were received five years later.

Integrated facilities

In order to achieve better integration of the many clinical and laboratory disciplines, the clinical programs and certain basic laboratories of the seven research Institutes share in the use of Clinical Center facilities. Both to assure consistently high standards of patient care and for reasons of economy, it was decided that services needed for patients of all Institutes would be provided by a central patient care organization. Thus grew into being a hospital care program not unlike those found in university and other teaching hospitals throughout the country.

Medical and surgical services are provided by physicians of the Institute in which the patient is being studied. The standard hospital services—such as nursing care, dietetics, pharmacy, diagnostic x-ray, laboratory tests, rehabilitation, and social services—are provided by the Clinical Center central organization. Liaison with referring physicians, medical societies, and hospital accrediting agencies are among other

Dr. Masur is Assistant Surgeon General, Public Health Service and Director, Clinical Center, National Institutes of Health.

essential activities coordinated or carried out by the Clinical Center staff.

Policy

Broad medical policies are recommended by a Medical Board appointed by the Director of the National Institutes of Health from among top medical personnel of the Institutes and the Clinical Center staff. When approved by the Director, these policies become binding on all staff members concerned with clinical research and patient care. They are coordinated by the Director of the Clinical Center, who also serves as staff advisor to the Director, National Institutes of Health, on the nonresearch aspects of the clinical program.

Patients

Patients are selected by Institute clinical investigators on the basis of having been referred by their own physicians and because they have a form and stage of illness specifically needed in a preplanned clinical research project.

Institute physicians provide medical and surgical attention needed by the patient. Patients are not expected to pay for the medical or nursing care received while they are participating in a research study.

Upon discharge, the patient's referring physician is sent a full report on findings and, where indicated, recommendations which may be helpful in his further management of the patient's illness.

Often a patient may take part in several studies in more than one Institute. In addition, a considerable number of volunteer, *normal study* subjects participate in the clinical research program. They are selected primarily on a medical basis through certain church organizations.

Residency program

A training program for young physicians, designed to provide unique experience in clinical investigation within the framework of a medical organization devoted exclusively to research, is in effect at the Clinical Center. This training encompasses two major categories of trainees—residents (also termed clinical fellows) and clinical associates.

RESIDENTS. At NIH, the term applies only to those physicians enrolled in a formal residency training program. Such a program might be in the clinical program of one of the Institutes, or in one of the central departments in the Clinical Center.

Thus far, among the central departments, formal residency programs have been established in clinical pathology, pathological anatomy, and radiology. The first two have been approved for three years of training required for eligibility, examination and certification by the American Board of Pathology. The radiology residency has been approved by the American Board of Radiology, Inc.

Clinical associate conducts seminar on a ...nt during grand rounds as senior clinical ...igator supervises. Grand rounds are con...ed before an audience of all clinical asso... and senior investigators able to attend.

In pathology, the resident may also elect to serve a four-year training program involving two years each in clinical and anatomical pathology for a combined certificate from the Board.

In addition to these departments, several of the individual Institutes have also received specialty board approval for formal residency programs. The American Board of Internal Medicine has approved one year of residency training credit in the National Heart Institute. The American Board of Psychiatry and Neurology has likewise approved one year of residency training credit in psychiatry in the National Institute of Mental Health and a two-year program in neurology at the National Institute for Neurological Diseases and Blindness.

Appointments to these residencies are usually reserved for physicians who have obtained one or more years of basic specialty training elsewhere, preferably in an academic environment, and who have a demonstrated interest and ability in research.

CLINICAL ASSOCIATE. This term applies to other young physicians with patient care responsibilities at the Clinical Center who are not enrolled in a formal training program. Clinical associates are attached to each of the several Institutes and, like the residents, become important members in the research teams. They may apply for one year's credit toward qualification for one of the specialty boards.

Research patients

Those candidates accepted for training as residents or as clinical associates soon become absorbed in the process of inquiry that is the essence of clinical investigation. They divide their time between the laboratory and the patient wards.

It is because each patient is a "research patient" in the sense that his disease or condition is the subject of a special clinical and laboratory study that the academically-oriented resident or clinical associate finds NIH a stimulating place to work. Here he is expected to develop an inquisitive state of mind, to study, to give expression to his concepts, to discuss his observations with other members of the team, including senior investigators in the basic sciences.

The program of research enables him, in the words of one clinical director, to see the "major unsolved problems of disease in an unsolved state." And, as another clinical director states, "In a research program

Dr. Emil Schulz, resident physician in the Clinical Center's Diagnostic X-ray Department, reads radiographic films and dictates findings for later transcription and permanent record. This is part of training for radiology certification.

such as ours, there is no such thing as a clinically acceptable final answer to any problem. In the boundless context of health and disease research, we are constantly seeking better answers."

Understanding

At NIH, disease is regarded as resulting from a physiological or biochemical deficiency, excess, or derangement. Working from this approach, the resident or clinical associate is in a position to define the treatment in terms of physiological and biological considerations and to understand the disease state in terms of "what went wrong."

For the resident or clinical associate, the research approach has much to offer—an approach which is regarded by many as one of the most effective and rewarding and most comprehensive forms of physician training. It invokes and enhances the capacity for disciplined thought and it provides deep inner resources of knowledge to be drawn against for the entirety of a professional life.

For NIH, the training program is already paying dividends. It is bringing into its research atmosphere each year alert young physicians interested in academic medicine not only as a way of life but also as an intellectual discipline. As they gain in experience, the residents and clinical associates prove increasingly adept in research, become highly productive clinical investigators, and often shed new light on old medical problems.

Complete physician

One young physician, having completed two years of training at NIH, recently summarized his experiences as follows:

"The complete physician in this physiologic age of medicine must learn by what mechanism the disease process takes place. The complete physician therefore must not be content with merely treating symptoms of patients but needs close and active acquaintance with research.

"Research teaches you to think and to discipline yourself to be somewhat skeptical of cause and effect concepts in medicine. The trainee in an NIH research project gains his greatest satisfaction in the awareness that he is not only deriving something from his particular investigation, but is also making a significant contribution to professional knowledge. When he realizes he is a giver as well as a taker, he is on his way to becoming a complete physician."

Eligibility

Residents and clinical associates must be graduates of approved medical schools. Candidates for most residencies must have completed two years of approved specialty training; clinical associates generally should have had a year of internship and a year of assistant residency as

View of nurses' station in the National Institute of Arthritis and Metabolic Diseases wing of the Center. Dr. Joseph McGuire, clinical associate, examines charts.

minimal prerequisites.

The positions are usually awarded to candidates seriously interested in a career of clinical investigation. This policy would not exclude those physicians desiring to enter private practice upon completion of their training at NIH, but the goal of a career in academic medicine is regarded as a strong factor in behalf of a candidate. Research interest or demonstrated research ability, particularly in the basic medical sciences, is highly desirable.

Commissioned

Most residents and clinical associates are commissioned officers of the Public Health Service. It is desirable that candidates be eligible for a commission, although an occasional physician is appointed through other federal employment procedures. Active duty as a commissioned officer of the PHS fulfills the Selective Service obligation.

Because of the fact that appointments are almost exclusively reserved for men with several years of formal and approved specialty training, most appointments are made far in advance and accepted candidates are deferred for specialty training as commissioned officers on inactive duty. Under this program, called CORD (for Commissioned Officer Reserve Deferment), the candidate is responsible for demonstrating that he has obtained an appointment in an acceptable residency in a civilian hospital, and he must, of course, be eligible for a commission.

Candidates

Physicians who wish to be considered for appointment as a *resident* should address their inquiry for appropriate application forms to Dr.

Residents often perform minor surgery singlehandedly in various services of the Clinical Center. Residents are shown here assisting in major surgery.

Murray Brown, Chief of Clinical and Professional Education, National Institutes of Health, Bethesda 14, Maryland. They should indicate their Selective Service status in the initial letter. Applications will be reviewed by appropriate chiefs of service. Candidates of choice will be nominated for appointment subject to review by the Medical Board and the Public Health Service Committee on Residencies and Internships. Notice of appointment will be received from the Office of the Surgeon General, Public Health Service.

Candidates for clinical associate follow a somewhat different procedure. They should apply directly to the clinical director of the Institute in which they are most interested between March 1 and September 30, 1958 for appointments to begin July 1, 1960. Personal interviews will be held during the second and third weeks of June and during September. Three letters of reference will be requested by the clinical director of the Institute for which application is made. If applying to more than one Institute, a single set of references will suffice.

Here are brief descriptions of the various residency programs at NIH.

Pathology

Under the program approved by the American Board of Pathology, residents receive three years of formal training in either clinical pathology or pathological anatomy, or four years in combination. Thus, appointments as residents are annually renewable for up to four

years, and the Departments of Clinical Pathology and Pathological Anatomy, though separated administratively, actually work together in the training of residents.

Clinical pathology

In the first year of their training in clinical pathology, the residents spend three months each in laboratories of clinical chemistry, hematology and microbiology. The fourth quarter is spent in laboratory administration and includes one month of service in the blood bank.

During this first year, residents work with trained technologists in learning advanced techniques, gradually assuming positions of responsibility under supervision of the chiefs of those laboratories.

In the second year of his training, the resident is given the choice of specializing in any one of the three areas of clinical pathology, undertaking specific research projects in close association with senior pathologists and scientists, and himself acts as senior resident and assistant chief in those areas. In addition, he undertakes some responsibility for training first-year residents.

Rounds

Throughout their training, residents are required to attend designated ward rounds in the various Institutes. Each resident in pathology is expected to attend three Institute ward rounds and participate in two clinical pathology laboratory rounds each week. Residents also participate in weekly journal conferences and seminars.

Dr. George Williams, Chief of the Department of Clinical Pathology, points out that the residency program makes several important contributions in its close liaison with clinical investigators:

"Physicians in the various Institutes are currently informed of new laboratory techniques and tests; clinical data on patients is correlated with laboratory results in the resident's daily experience; laboratory and clinical staff can work closely to the ultimate improvement of patient care."

In addition, the patients often receive direct benefits from the residency program. For example, Dr. Williams noted that one resident "helped to develop a new serum iron test in the laboratory out of his personal interest in the subject, and it is now being used as a routine diagnostic procedure."

Pathological anatomy

The program encompasses autopsy pathology, surgical pathology and cytology—and residents work in all fields virtually simultaneously. They are not assigned to specific areas for specific periods, but handle the entire spectrum of pathological anatomy problems as they develop during their entire terms.

In autopsy pathology the trainee learns the techniques involved by assisting a staff member at the out-

Dr. John Gill, clinical associate of the National Heart Institute, conducts bedside examination of a study patient. Dr. Gill tells patient of a proposed regimen, during daily morning rounds. Following ward rounds in the Clinical Center, Dr. Joseph McGuire writes his report.

set, then performing the procedure under supervision. The Pathological Anatomy Department performed 262 autopsies last year. The resident must also be prepared to present reports on about one-third of his cases at the weekly Clinico-Pathologic Conference conducted by the Department.

Procedures

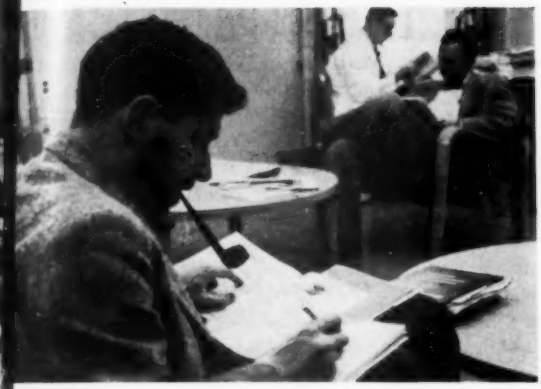
In surgical pathology the resident observes the procedures in preparing rapid frozen sections and is expected to become proficient in preparing and staining such sections. He is also instructed in the procedure of description and diagnosis of fresh and fixed, surgically-removed material. In addition, the resident is expected to attend Institute rounds during this period.

In the second year the resident takes full responsibility for the complete autopsy procedure, makes primary examinations of the surgically-removed specimens and describes gross changes, prepares a microscopic description and presents a diagnosis to the staff pathologist for confirmation. Later he is given complete independence in the primary examination of surgically-removed tissue and in the autopsy prosecution, and assumes responsibility for assisting in the instruction of the first-year residents. Dr. Harold L. Stewart is Chief of the Department of Pathological Anatomy.

The residency training program in radiology has been approved by the American Board of Radiology. It constitutes a minimum of three years of formalized training in radiation physics, x-ray diagnosis, and therapy. As specified by the new Board requirements, the fourth year may be spent in the practice of radiology at the Clinical Center or elsewhere.

The first year is spent exclusively at the Clinical Center and instruc-

There's no letup in the training of clinical associates. Here they're shown eating lunch while one of their colleagues presents a lunch-hour lecture on a problem.



The Clinical Center's extensive library provides an all-important component for research of clinical associates and residents; it is used every spare moment in the endless searching of medical literature.

tion is provided in film procurement techniques, darkroom procedures, fluoroscopic methods, and x-ray film interpretation. For a period of three to six months the resident spends each morning with a staff radiologist observing fluoroscopic examinations and x-ray film interpretation. As he develops ability, the resident is assigned direct responsibility for these procedures. Films are checked, however, with a staff physician who reviews the findings and suggests methods of improving techniques.

Walter Reed

The second year is spent primarily in therapy. Six months are devoted to x-ray therapy at the Walter Reed Army Medical Center, where excellent facilities and a well diversified patient load is available. Another three months are spent at the Clinical Center learning treatment techniques and gaining radioactive isotope experience. The final quarter is completed at the Johns Hopkins Hospital, with intensive training in pediatric, orthopedic, and obstetrical radiology.

The final (third) year of the formalized training program is taken at the Clinical Center. Under supervision, cerebroarteriograms, retroperitoneal air insufflations, angiocardiograms, and other special radiographic procedures are accomplished by the resident. He is responsible for independent fluoroscopic examinations and x-ray film interpretation. He presents one-hour seminars on topics of radiological interest, as assigned by the department chief. He is also required to write and have published at least one paper on a subject of radiological interest.

During his training, the resident must be in attendance at postmortem examinations. He presents x-ray films during these examinations as well as at weekly pathological conferences. At periodic intervals, histological sections and gross specimens are reviewed with the residents and staff of the Pathology Department.

The resident also is responsible for bringing autopsy material to the Radiology Department's daily conferences where radiological and pathological findings are correlated. In addition, he attends weekly radiology conferences at the Army Institute of Pathology.

Special courses

Each year a special course in radiation physics is given by a Clinical Center physicist. Presented as evening lectures, this course is attended not only by radiology residents of the Clinical Center but also by other residents in the Washington Area. In addition, Dr. Edith Quimby presents a radiation physics course on a bi-annual basis.

The resident receives direct practical instruction at the Clinical Center in the use of ionization chambers, isotope equipment, and radiation protection methods. He is responsible for utilization of Geiger counters, ionization chambers and for monitoring the X-ray Department when new equipment is installed or changes are made in existing equipment.

At noon each day a staff x-ray conference is held to review current films of radiological interest and the resident has an opportunity to raise questions and obtain information. Differential diagnoses are discussed and radiological techniques are suggested. Joint opinions are obtained as to interpretation of difficult roentgen findings.

Lectures, techniques

The resident is expected to attend various lecture programs at NIH where specialists discuss many disease entities — an important basis for the broad training required of the modern radiologist. Each year a radiological course is presented by the X-ray Department staff to Clinical Center physicians. It is designed to instruct in x-ray film interpretation and specifically to correlate the clinical with the radiological findings. Radiology residents attend this course and senior residents are given some responsibility in presenting the course.

Residents participate in numerous research activities and have opportunities to develop and improve radiographic techniques. For example, a serial ureterographic method was developed within the Department which provided more precise information concerning the ureters. This type of examination has facilitated the diagnosis of mild ureteral strictures which were previously overlooked by routine intravenous pyelographic studies.

Thus the residency training program at the Clinical Center provides complete, well-rounded training in clinical radiology, radiation physics, and x-ray therapy as well as affording opportunities to gain insight as to methods and techniques of research investigation.

One new radiology resident is accepted each year, with a full complement of four residents. The program is under the direction of Dr. T. F. Hilbish, Chief of the Diagnostic X-ray Department.

Surgery

Several supplementary training programs are also in effect at NIH, although they are not in the category of formal residency or clinical associate programs. For example, the Department of Surgery has eight junior surgeons, each appointed for two years. They function much as residents and clinical associates, being concerned with laboratory and research procedures. They serve the National Heart Institute, National Cancer Institute and National Institute of Neurological Diseases and Blindness.

Junior surgeons generally spend about half their time in laboratories and half in care of patients. Most of them undertake specific clinical research projects. They perform minor surgery, assist in major surgery and handle a certain amount of emergency surgery singlehandedly.

Anesthesiology

Several senior medical students, or preceptors, are employed during the summer by the Department of Anesthesiology. They participate in the administration of anesthesia under supervision, help prepare patients for special anesthesia, start intravenous injections, assist in special nerve-block procedures and accompany senior physicians on pre- and post-anesthetic rounds.

SELECTIVE SERVICE

Active duty in the Commissioned Corps of the Public Health Service, of the duration and kind specified by the Universal Military Service and Training Act, satisfies obligations under both the "General Draft Act" and the "Physicians'-Dentists' Draft Act." It does not, however, confer veteran status upon an officer unless he is assigned by the Public Health Service to the U. S. Coast Guard or one of the military services. To fulfill obligatory service under the "Physicians'-Dentists' Draft Act," an officer must remain in the Public Health Service for a period equal to the time he would serve in one of the Armed Forces.

The Seven Institutes

National Institute of Allergy and Infectious Diseases

Ten clinical associates serve in this Institute, each on two-year terms and participate in a combination of laboratory and clinical studies. Their time is divided approximately equally between the laboratory and patients.

The clinical associates are assigned to specific research projects upon their arrival and remain with those projects throughout their entire term. The projects include a wide range of viral diseases, bacterial infections, mycoses, protozoan diseases and immunology.

The range of duties of clinical associates in this Institute is extremely varied. One study might involve growing live viruses, another be concerned with biochemistry. In general, the laboratory research undertaken by a clinical associate is intimately related to the clinical research underway on the patients in his care.

Dr. Norman B. McCullough, Clinical Director of the Institute,

The fundamental nature of research conducted at the seven Institutes makes them unique in world medicine. With the new Clinical Center, basic investigation at the Institutes has taken on an added dimension through its application to patients at the NIH. Clinical associates are not in formal residency programs—although their primary interest is to receive additional training in both research and in experimental clinical activities. However, residency approval has been granted certain of the clinical associate programs by the AMA Council on Medical Education and Hospitals, and board credit is given in some.

points out that the Institute must deal with a wide variety of disease entities, covering the fields of medical microbiology, allergy and immunology, and that this is reflected in the clinical research program.

In addition to working on the wards, the clinical associate is also responsible for outpatients, continuing to examine and observe his patients after their discharge.

National Institute of Arthritis and Metabolic Diseases

Approximately 50 percent of the time of clinical associates, who are appointed for not less than two years, is spent in a research laboratory employing one of the following disciplines: Enzyme chemistry, physical chemistry, immunochemistry, organic chemistry, physiology, pharmacology, pathology, or bacteriology.

These laboratories, situated in close proximity to the wards, are directed by senior investigators, who exercise daily personal supervision over the clinical associates.

In the remaining 50 percent of his time, the clinical associate is responsible for clinical observations and care of patients on the medical service of the Institute—functioning in a manner equivalent to that of a resident.

The medical service of the Institute includes the following sub-specialties: Arthritis and other Rheumatic Diseases, Endocrinology, Hematology, Mineral and Energy Metabolism, Hereditary Metabolic Diseases and Diabetes Mellitus. Gastroenterology will be added as of July 1, 1959.

The staff currently includes 10 clinical associates, whose clinical responsibilities include thorough admission histories and physical examinations of all patients, diagnostic work-up, day-to-day observations and complete narrative discharge summaries. Working rounds by the Branch Chief, accompanied by the clinical associates, are made at least

once weekly, often three times a week. Dr. Joseph J. Bunim is Clinical Director of the Institute.

Clinical associates also receive the benefit of Clinical Staff Conferences once a week and a separate Research Conference devoted to reporting on work in progress. Combined Staff Conferences of all the Institutes are held bi-weekly.

The clinical associates see an aggregate of 45 patients per day in residence, plus about 30 ambulatory patients seen weekly in the admissions and follow-up clinic attached to the Institute.

National Cancer Institute

Clinical associates are appointed for two years. During that time they are responsible for extensive work-ups on patients, including taking of complete histories, physical examinations and responsibility for daily rounds with the senior physicians — the all-important bases for superior medical care. Presently there are 33 clinical associates for 118 patients, or an average of slightly less than four patients per clinical associate.

Depending on the service to which they are attached, clinical associates spend a certain portion of their time in the laboratory as well as on the wards. Seven separate groups are organized under four main headings: Surgery, Radiation, Endocrinology and Medicine. In the latter branch are four sub-groups: Chemotherapy, Metabolism, Clinical Pharmacology, Dermatology.

In some of those groups, fairly large numbers of patients are severely ill with acute leukemia, Hodgkin's disease or other metastatic cancers. In such groups, the clinical associate may spend as much as 70 percent of his time in details of clinical care. In other groups, such as Metabolism, relatively few patients are available for intensive study—and in those cases, clinical associates may spend as much as 70 percent of their time in laboratory research.

The following disciplines are the major headings of research programs to which clinical associates are attached: Metabolic Balance, Protein Fractionation, Protein Synthesis, Hematology, Body Composition Studies, Biochemistry, Enzyme Chemistry, Physiology, Pharmacology, Bacteriology, Cytology, Radiobiology, Endocrinology. In addition, there is extensive opportunity to participate in the planning and operation of clinical trials of chemotherapeutic agents.

In their responsibilities for work-ups and daily work rounds, the clinical associates are supervised closely by a group of senior physicians who are full-time career clinical investigators.

In addition to the patients in residence at the National Cancer Institute, 100-200 patients are seen weekly in the Admissions and Fol-

low-up Clinic attached to the Cancer Institute. Also, within the Institute are systematic meetings for discussion of patient care problems and for discussion of current research.

Dr. Charles G. Zubrod, Clinical Director of the National Cancer Institute, points out that clinical associates with training in external medicine constitute about two-thirds of the junior staff; physicians with training in surgery or radiation make up the remainder.

"The important thing is that the clinical associates participate in research and clinical investigation from their very first day," Dr. Zubrod said. "This enables him to become integrated into the research team atmosphere from the start. We are very proud that our clinical associates have made not only contributions to these major group efforts but also have initiated and carried through research projects of their own."

National Heart Institute

Twelve clinical associates serve currently on the Institute staff, with six new appointments made each year for two-year terms. Although the Heart Institute has 10 laboratories, clinical programs are centered in four: Surgery, General Medicine and Experimental Therapeutics, Kidney and Electrolyte Metabolism and Cellular Physiology and Metabolism.

The clinical associate is first permitted a choice of laboratory to which he prefers assignment. If the laboratory's research progress permits it to absorb him, he spends the first two months of his stay in that laboratory, learning as much as possible about all its functions. This laboratory remains as his "home-base" during the entire two years.

He is then assigned to one of the five medical research teams and spends two months with each of those teams as house officer. Each clinical associate spends a total of 10 months on the wards. In the last 10-12 months of his term he is free of routine medical care responsibilities and fully participates as a member of the research team in all its phases.

At no time in his clinical training does the clinical associate lose his identity with the laboratory to which he was first assigned. He is given an opportunity to talk with the chiefs of all the laboratories before expressing his preference; once he is accepted by a laboratory, he remains with it throughout his term.

Dr. Luther Terry, who is in charge of the training program, says that many clinical associates devote a large part of their second year to completion of significant research projects of their own initiation under the guidance and supervision of the chief of the laboratory.

"Our program is geared to bringing the clinical associate into a research atmosphere and giving him a

chance to advance his training and career by learning methods and techniques of clinical investigation. Our program affords a marvelous opportunity for men with a desire for academic medicine to gain this valuable experience. The clinical associate in our program is the house officer on the wards, serving as the connecting link between the staff investigators and the patients. It is he who must implement many of the research projects on the patients."

The Institute also has approval of the American Board of Internal Medicine for a one-year residency training program in internal medicine. The actual training program is for two years' duration and it has been the custom of the Board to grant one-year of practice time credit in addition to the year of training credit for the 2 years spent in the Heart Institute.

National Institute of Mental Health

Clinical associates may be appointed to one of four programs in the National Institute of Mental Health. These are: Child Research, Adult Psychiatry, Clinical Science; and the Clinical Neuropharmacology Research Center located at Saint Elizabeth's Hospital in Washington.

The Child Research and Adult Psychiatry Branches are primarily concerned with the study of the psychosocial aspects both of normal behavior and of various emotional disorders. Intensive psychotherapy and carefully organized activity programs are often utilized as the principal therapeutic instruments and as research tools; some related biological studies are carried out, particularly by the section interested in psychosomatic problems. The Laboratory of Clinical Science is concerned principally with the study of the biological aspects of mental illness and of behavior generally; in these studies thorough psychiatric evaluations constitute an essential element in a broad spectrum of determinations of behavioral responses.

The Clinical Neuropharmacology Research Center is being developed in collaboration with Saint Elizabeth's Hospital. It brings to a large modern mental hospital a multidisciplined group of investigators who will carry out a broad research program ranging from examinations of the influence of the social structure through evaluations of pharmacological agents to basic physiological, biochemical, and psychological studies.

Clinical associates may be assigned to various projects at levels commensurate with their previous experience. They have responsibility, under direction, for the care of patients and of normal control subjects who are participating in the research studies. They become junior members of a research team, and may be assigned to develop special areas of the study with the guidance of a senior investigator. When ap-

propriate, they may be permitted to carry on some individual projects.

The NIMH Clinical Investigations program may grant one year of credit toward Board certification.

National Institute of Neurological Diseases and Blindness

The clinical program is divided into three sections — medical neurology, ophthalmology and neurosurgery. Each has clinical associates assigned, for a total of 13 in the Institute.

Extensive use of clinical associates is made in laboratory functions, which form a very large part of the Institute's over-all program. The first year of the clinical associate's term (he is appointed for two years) is spent chiefly in the laboratories, working in neuropharmacology, neurochemistry and neurophysiology. During that period he is also slowly integrated into patient care.

On the wards the clinical associate admits, investigates and provides follow-up care for patients to whom he is assigned. In so doing, the range of his duties is quite wide, embracing among other things, responsibility for pneumoencephalograms and arteriograms on his patients. In addition, he screens outpatients and follows his own patients after their discharge.

During his second year he will often see patients in conjunction with research programs of other Institutes. In addition, he collaborates on a number of research programs within his own Institute and advances to the performance of such procedures as muscle biopsies and investigation of radio-active scanning techniques. During this period he can also continue to work independently in the laboratory or under the supervision of laboratory specialists.

The medical neurology program has received approval of the American Board of Psychiatry and Neurology, for a two-year residency training certification. Applications of ophthalmology and neurosurgery sections for Board approval of their training programs is pending.

As examples of the types of research programs in which the Institute is engaged, shared in varying degree by the residents and clinical associates, are: cerebral palsy, myasthenia gravis and muscular dystrophy, epilepsy, electroretinography, toxoplasmic uveitis, glaucoma, conjunctival and corneal virus diseases and brain tumors.

Each of these topics, and others, involves several areas of research. For example, the study of myasthenia gravis and muscular dystrophy actually is a broad series of studies in neuromuscular disease involving diagnosis, therapy, pathology, pharmacology, alterations of actomysin, ionic exchange, significance of penotsuria, etc.

Dr. G. Milton Shy is Clinical Director of the Institute.

Commissioned Corps of the Public Health Service

The Commissioned Corps of the Public Health Service is a professional career organization of carefully selected, exceptionally qualified physicians, dentists, sanitary engineers, nurses, scientists, and other categories of professional personnel in the fields of clinical medicine, preventive medicine and public health practice, and medical research.

Presidential appointments; a system of regular promotion; agreement to serve wherever the needs of the Service require; rank and tenure comparable to those of the Armed Services—these and other characteristics of the Corps have had a proved and continuing appeal to professional people through the years. They have contributed to the record that the Public Health Service has been able to build. The pattern of the Corps, as to obligations, pay, and allowances, is similar to that of the country's military services.

Composition

The Commissioned Corps has a Regular and Reserve component. Officers of the Regular Corps are selected after professional examination and are appointed by the President, by and with the consent of the Senate. The Corps is administered by the Surgeon General, who is appointed by the President from the Regular Corps, subject to Senate confirmation, for a term of four years. The Surgeon General, by law, holds rank equivalent to the Surgeon General of the Army. Officers of the Reserve Corps are appointed by the Secretary of Health, Education, and Welfare on behalf of the President.

Appointments for career service in the Regular Corps are made from nation-wide, competitive examinations, and the successful candidates are usually commissioned in the three lower grades—Junior Assistant, Assistant, and Senior Assistant (equivalent to the Navy grades of Ensign, Lieutenant (jg), and Lieutenant). Examinations in the various medical and health specialties are given periodically throughout the year, depending upon the manpower needs of the Service.

The Reserve Corps augments the Regular Corps of the Public Health Service insofar as program needs and funds permit. In contrast to the Regular Corps, the Reserve Corps is not a career service, as such. The Reserve Corps increases or decreases in size as programs of the Service expand or contract, and Reserve officers are retained on active duty or placed on inactive duty status accordingly.

The Commissioned Reserve is the inactive reserve component of the Commissioned Corps. It is a growing organization of trained professional health personnel held in reserve for national emergencies involving the partial or full mobilization of the Nation's health resources. In the event of national emergencies, Commissioned Reserve Officers will have the opportunity of serving in the capacities for which their professional training and experience have fitted them. Commissioned Reserve Officers will be called to emergency duty primarily to reinforce the staffs of state and local health agencies and the Public Health Service operating staff.

Assignments

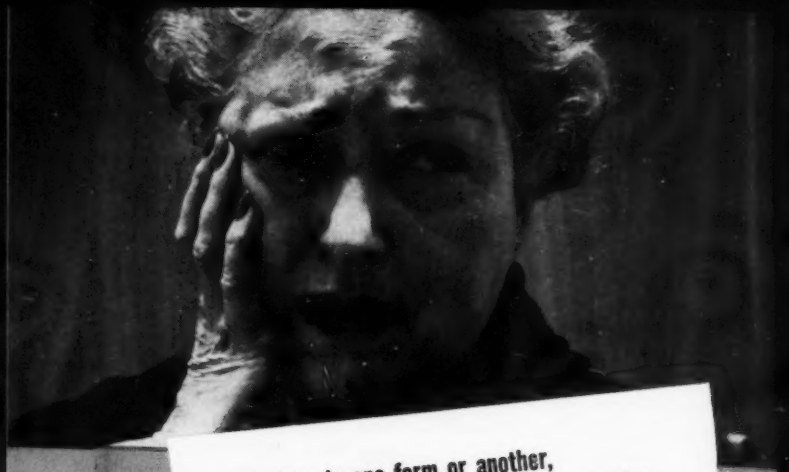
Officers on active duty may expect assignments to stations in many parts of this country, and possibly abroad. Where feasible, the professional interest and special competencies of both Regular and Reserve Corps officers are taken into account when assignments are made. It is recognized that the needs of the Service necessarily must take precedence over personal preferences, but the Service nevertheless carefully considers any qualifications that might fit an officer for the responsibilities he will assume.

Requirements

All applicants must:

- Be citizens of the United States
- Have been granted an academic or professional degree from an approved school, college, or postgraduate school
- Be physically qualified
- Submit official transcripts covering undergraduate and professional study. They should have their college or university forward these documents to the Surgeon General, U. S. Public Health Service (DP), Washington 25, D. C.

Submitting the application will not obligate the applicant or the Service. The application helps the



"Anxiety, in one form or another, is the most common symptom confronting the practicing physician"[1]

1. Hollister, L.H., et al.: Dis. Nerv. System *17*:289 (Sept.) 1956.

Whether anxiety is primary or secondary to organic illness, it is an obstacle to successful treatment. EQUANIL alleviates stress reactions; reduces anxiety, tension, and insomnia, and thus contributes to total patient management. Of all ataractic drugs, EQUANIL has the broadest usage in the common problems of everyday practice.

anxiety is the voice of stress

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Meprobamate
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A Wyeth normotropic drug for nearly every patient under stress

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Equanil®
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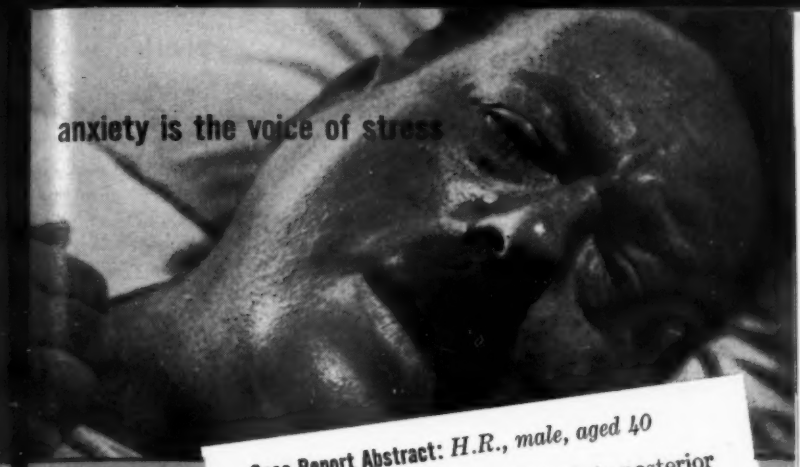
Relieves tension—mental and muscular



Case-Report Abstract: *H.R., male, aged 40*

Severe anxiety complicating acute posterior myocardial infarction, with sinus tachycardia and premature ventricular contractions. Prompt improvement followed the use of EQUANIL to calm the patient. The heart rate slowed, the premature contractions subsided, and the patient responded to reassurance. Medication with EQUANIL continues, and the patient has returned to work.[1]

"Cardiac patients who show significant manifestations of anxiety should receive ataractic treatment as part of the therapeutic approach. . . ."[1]

1. Waldman, S., and Pelner, L.: Am. Pract. & Digest Treat. *8*:1075 (July) 1957.

heart disease is a state of stress

EPS

EQUANIL Meprobamate

PHENERGAN® HCl Promethazine HCl

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A Wyeth normotropic drug for nearly every patient under stress

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Relieves tension—mental and muscular

Service to look for an assignment in which professional training and experience can be applied most effectively. Appointment and call to active duty depend solely upon qualifications and upon availability of a position in the professional field and at the appropriate grade. Individuals now holding commissions in one of the Armed Forces must obtain conditional release from that Service.

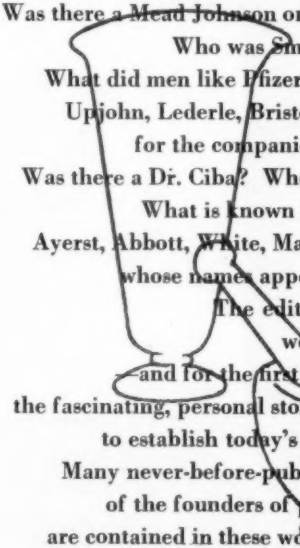
EQUIVALENT GRADES

The rank as well as the salary of Public Health Service officers is comparable to those of officers in the Armed Forces. The rank of an officer commissioned in the Public Health Service is based on the quality and amount of professional training and experience necessary to meet Public Health Service requirements.

The grades of Public Health Service officers correspond with those of the Armed Forces as follows:

PUBLIC HEALTH SERVICE	NAVY	ARMY
Junior Assistant	Ensign	Second Lieutenant
Assistant	Lieutenant (jg)	First Lieutenant
Senior Assistant	Lieutenant	Captain
Full	Lieut. Commander	Major
Senior	Commander	Lieut. Colonel
Director	Captain	Colonel

The Men Who Made the Medicine . . .



Who was Parke? What did Davis do? How about Lilly, Burroughs and Wellcome, Wyeth, Eaton, Squibb, Roche, Merck, Sharp and Dohme? Was there a Mead Johnson or was it Mead *and* Johnson? Who was Smith and Kline and French? What did men like Pfizer, Robins, Searle, Winthrop, Upjohn, Lederle, Bristol and Schering actually do for the companies which bear their names? Was there a Dr. Ciba? Who were the Burns Brothers? What is known about Warner and Chilcott, Ayerst, Abbott, White, Massengill, McNeil and others whose names appear in drug company titles? The editors of RESIDENT PHYSICIAN went looking for the answers and for the first time have brought together the fascinating, personal stories of the men who worked to establish today's pharmaceutical companies. Many never-before-published incidents in the lives of the founders of present-day drug companies are contained in these word and picture biographies. In this issue, RESIDENT PHYSICIAN brings you the third of this exclusive series of articles about the pioneers in an industry which has caused a virtual revolution in medical care and research in our time.

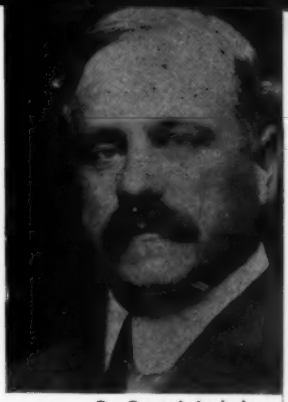
for the

PHARMACEUTICAL

COMPANY

FOUNDERS

In an age when cynical politicians picked New York City's pockets, Dr. Lederle brought honesty and industry to his post as health commissioner and won acclaim for his campaigns against impure milk and water, diphtheria, smallpox and other diseases. A natural outgrowth of his interest in public health was the founding of the laboratories which bear his name.



Dr. Ernst J. Lederle

PUBLIC GOOD

A few miles south of the New York Thruway as it curves through Rockland County toward New York City, the motorist finds the pleasant town of Pearl River and the big campus-like plant of Lederle Laboratories, American Cyanamid's pharmaceutical and biological division. The town is named for a local stream which once yielded fresh water pearls. The laboratories bear the name of Dr. Ernst Joseph Lederle who started them a little more than half a century ago.

Dr. Lederle was of German ancestry. His father, Joseph Lederle, an architect and engineer, was born in Freiburg-im-Breisgaw, Baden, and fled to America after the freedom uprisings of 1848. He married Clara Schmidt, who had the same birthplace, and entered the U. S. Lighthouse Service as a construction engineer.

After service on the Great Lakes, he was promoted to the post of construction engineer in charge of the lighthouse station at St. George, Staten Island, New York. The St. George station, maintained by the Bureau of Lighthouses of the Department of Commerce, controlled all the lighthouses from Rhode Island to Delaware on the Atlantic coast. About 1870 Joseph Lederle purchased property on Lewis Street, Stapleton, and resided there until his death 25 years later.

Favorite student

Ernst Joseph, one of four children of the couple, was born June 30,

Farm at Pearl River, N. Y. (top photo) became site of Lederle Laboratories in 1907. Center: Young ladies test anthrax vaccine on hamsters.

Hand filling of diphtheria antitoxin back in 1910 was slow but vital process. A number of cities depended upon it for protection against the dread disease.

1865 on Staten Island. As a boy, he learned German as well as English, attended the Stapleton High School and developed a powerful physique rowing about the island. He briefly attended the University of the City of New York before enrolling with the class of 1886 in Columbia College's School of Mines, then still in midtown Manhattan.

There he made friendships which helped shape his life. He rowed No. 4 in a freshman crew that was beaten by Harvard, joined Beta Theta Pi, and was president of his class in his junior year. He chose chemistry as a career and became a favorite student of Professor Charles Frederick Chandler, who for 30 years made the subject fascinating for Columbia men.

His method, as one former pupil recalled, "was to make everything appear easy and thus lure the student along, constantly whetting his curiosity and encouraging his facility, so that when he reached deep waters the student was glad and proud to swim." He leavened his lectures with anecdotes and advice. "My father always taught me," he explained, "that I should ask 'Is this

a good thing to do?' and if so, to do it, regardless of whether or not there was anything in it for me."

Deep impression

Professor Chandler made important contributions to the oil, coal, sugar and paper industries, but his greatest interest was sanitation. He invented the first flush-trap toilet, and as president for some years of the New York City Board of Health, he launched important pure milk and water measures.

He illustrated one lecture with a series of three drawings. One showed a child asleep, diphtheria germs from a broken sewer pipe coming through the wall and into his throat. The second picture showed a physician diagnosing the case two days later; the third, the parents weeping at a funeral. These illustrations made a deep impression on young Lederle and also on William Hallock Park who a little later studied medicine at Columbia.

Milk inspector

Lederle, Professor Chandler later wrote, "was a pupil of unusual ability, industry and zeal." As much of the scientific literature was in German, his knowledge of this language was an advantage. He earned his bachelor of philosophy degree with honors in 1886 and continued at Columbia for another year on a fellowship in quantitative analysis. Working as Professor Chandler's assistant, he began studying for a doc-

ENERGY AND ABILITY

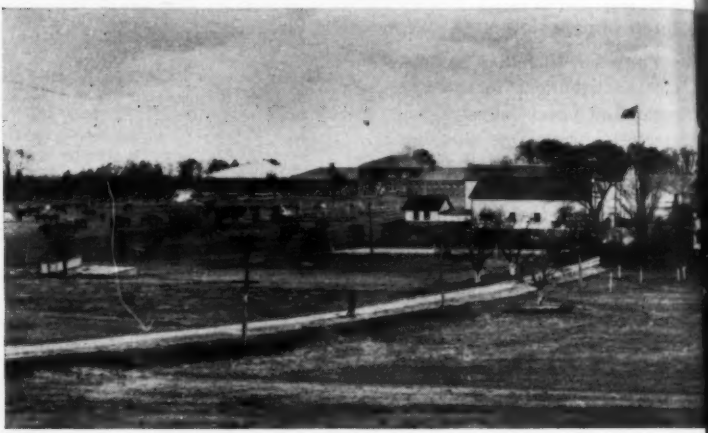
Dr. Lederle was a chemist who turned to the manufacture of biologicals and founded an enduring enterprise in a six-year interval between two excitement-packed terms as New York City Health Commissioner. A contemporary described him as "a far-visioned planner, an energetic and kindly administrator; with German thoroughness, Yankee shrewdness, and universal humanity,—strong, patient, able, just, judicious."

A forceful blue-eyed man, who stood 6 feet 1 inch and filled a Santa Claus suit without padding for children's hospitals Christmas parties, Dr. Lederle fought hard to improve standards of health in New York City.

In speeches, interviews and booklets, he publicized the slogan: "Public health is purchasable. Within natural limitations, a community can determine its own death rate." This slogan is said to have originated with a Health Department colleague, Dr. Hermann M. Biggs, who in an Academy of Medicine lecture (November 7, 1895) on "The Health of the City of New York," asserted: "It may be said, with certain limitations, that the inhabitants of any city have it largely within their power to determine what degree of healthfulness their city shall have."

Dr. Lederle shared with Mayor William Jay Gaynor, under whom he served, an admiration for this truth from Epictetus: "You will never be truly happy until you have put as much energy and ability into serving the public good as you have put into your own private business."

Dr. Lederle sought the public good. He was little interested in fame or fortune but achieved a measure of both.



tor of philosophy degree.

He next studied milk and food production on a farm for a year and in 1888 went to work for the New York City Health Department as a milk inspector and assistant chemist.

While many health department workers were political appointees, Lederle and some others, notably Dr. Hermann M. Biggs, who established the department's bacteriological laboratory in 1892, and Dr. William Hallock Park who headed it, were above politics.

"Even the most callous political hireling," wrote Wade W. Oliver, biographer of Park, "was baffled and silenced by the unyielding integrity and forward-looking altruism of such men as Lederle, Biggs and Park." Illustrative of this was an incident involving sponges.

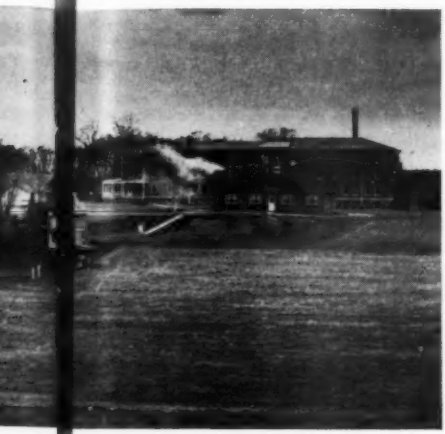
Shrinkage

The department ordered five pounds of sponges. Some were delivered and Lederle was asked to sign a receipt and voucher authorizing payment for them. Noticing the small quantity of sponges, Lederle refused to sign.

"Why don't you sign the voucher?" demanded the contractor.

"Because it calls for five pounds of sponges and those delivered don't weigh more than five ounces."

"Don't be foolish," argued the man, "we weighed them before they were delivered."



By 1920 the plant at Pearl River had been expanded to include several production buildings and a large animal house which stretched across the southeast corner of the property.

"Well," retorted Lederle, "here they are now. Weigh them yourself."

"Great Scott, man," exclaimed the supplier, "you don't mean to say you weighed them dry?"

Marriage

In 1895 Lederle received his doctor of philosophy degree from Columbia, writing a thesis on "Nitrates and Nitrites, Their Detection and Estimation and Their Relation to Plant Life." He made this an even more eventful year when on June 22 he married Miss Margaret C. Taylor, daughter of Matthew Taylor of Stapleton, Staten Island.

The Lederles began housekeeping in a 90th Street apartment in Manhattan but in 1896 Dr. Lederle was promoted to chief chemist of the Health Department and his salary raised to $2500 a year. This enabled them to buy a home at 471 West 143rd Street in Washington Heights. They had three children, twins who died in infancy and a daughter, born on Christmas Day, 1905, who later became Mrs. Mary Lederle Stearns of Longmeadow, Mass.

Dr. Lederle's appearance as a witness in several sensational poison trials and his militant efforts in behalf of pure milk earned him fame outside his laboratory.

One was the case of Roland Burnham Molineux, a Manhattan clubman. He was accused of murdering

two persons, one a rival in love, by mailing them samples of a popular headache powder with which arsenic had been mixed. Dr. Lederle ran tests determining the presence of the poison in the powder. Molineux was convicted, then acquitted, then became insane.

The chemist also figured as an expert in the Fleming, Kennedy and William Marsh Rice cases of the time, the last involving the death of the millionaire founder of Rice Institute.

Milk and disease

In his laboratory Dr. Lederle confirmed the relationship of unwholesome milk and disease. Guinea pigs given milk from diseased cows developed tuberculosis and died. As a result of Dr. Lederle's work, the Board of Health, in 1896, required that all milk sold in New York City come from tuberculin tested cows and that milk dealers must have permits. Dr. Lederle led several predawn raids to arrest violators.

Prosecution of these, as well as the poison cases, brought Dr. Lederle and his work to the attention of William Travers Jerome. This forceful New Yorker, who had studied law at Columbia while Lederle was mastering chemistry there, was successively an assistant district attorney, a justice of special sessions, and district attorney for New York County. In all of these roles, he was in contact with Dr. Lederle and came to respect and admire Dr. Lederle's sincerity and ability.

"He is an honorable, noble, capable man, none finer in this country," said Jerome of his friend in a bar association address.

Citing Dr. Lederle's sponge story as an example of Tammany waste, Judge Jerome and other reformers in 1901 helped elect Seth Low mayor of New York, then a city of 3½ million. A wealthy retired merchant, he was both a graduate and a former president of Columbia. As the latter, he had changed the name from college to university and, as a memorial to his father, had given the school the $1 million Low Library, first of the new Morningside Heights buildings.

Mayor Low promptly chose Dr. Lederle for health commissioner and president of the Board of Health. Other names were proposed but Jerome insisted the post go to the chemist. It was a Fusion administration. Mayor Low was a Republican who had left his party to vote for Grover Cleveland. Dr. Lederle was a Republican but uninterested in party politics. Jerome was a Democrat.

Smallpox threat

Smallpox threatened New York

when Dr. Lederle took office at the start of 1902. The disease had obtained a hold on the city in 1900, and in 1901 there had been 1,198 cases and 410 deaths. He employed an emergency force of 200 vaccinators and within six months they vaccinated 810,000 persons.

Accompanied by uniformed patrolmen, squads of vaccinators worked from 5 to 9 P.M. Everybody living within two blocks of a case was vaccinated. Every tenement was visited and there were mass vaccinations in business houses. There were 309 smallpox deaths in 1902 but only four in 1903.

Given a budget of $984,000, some $70,000 less than his predecessor, Commissioner Lederle had to economize. Dedicated employees like Dr. Biggs and Dr. Park remained (the former was made chief medical officer) but 157 Tammany holdovers were discharged; the sanitary bureau was abolished and two other divisions were consolidated into one, saving $100,000 a year in salaries.

Further savings were effected by calling for competitive bids on food, hospital and medical supplies. This previously had been done only for coal.

"All this Lederle was able to do promptly because he knew the department from the inside," reported the *New York Evening Post*. "He created a new and wholesome atmosphere. Secrecy, suspicion, political preferment—passed, and to the flouted taxpayer there came the realization that his complaint, however trivial, would receive due consideration."

School doctors

All sorts of people turned to Dr. Lederle. On White House stationery, he received this: "Mrs. Roosevelt will be much obliged to Dr. Lederle, if he will be so kind as to help Mary McKenna, her maid, to find out how her brother is. He is at Riverside Hospital. His name is Patrick McKenna." Dr. Lederle dispatched the information.

He received personally all kinds of complaints about barking dogs, the heat of buildings, ventilation of streetcars, dead animals, the taste of milk and the manners of hospital attendants. A woman telephoned him one night to say that a dozen burglar alarms on 10th Street were keeping her awake. He sent police. A mother once brought her three children, barred from school because of lice, to his home to show him "how clean their heads are."

As part of his efforts against contagious diseases, Dr. Lederle increased the wages of school physicians from $30 to $100 a month and required that once a week they inspect all children for eye and skin maladies as well as to examine daily

those excluded by the teachers. At the suggestion of Miss Lillian D. Wald of the Henry Street Settlement, who brought the idea from London, he employed school nurses, the first hired by any American city to follow up cases of excluded students, many of whom had trachoma.

"The Department of Health, as now organized," said a *New York Times* editorial on Dec. 8, 1902, "is an object lesson of intelligent municipal administration where special fitness and energy are combined in the city's service without regard to any other consideration."

That Christmas, Dr. Lederle happily donned a red suit and played Santa Claus for patients in the Willard Parker Hospital for contagious diseases. There was a tree in every ward and every patient received at least one present.

Health campaigns

In 1903 he opened a new tuberculosis hospital and assigned public health nurses to this disease. He campaigned against noise, smoke and malaria. He won the formal thanks of retail kosher butchers by extending them slaughtering privileges previously enjoyed only by wholesalers. When bubonic plague appeared in San Francisco's Chinatown, he ordered a drastic cleanup of New York's Chinese section and there were no cases.

Dr. Lederle continued his fight for pure milk, water and food, turning up instances of cigar boxes being ground up and sold as cinnamon; ground rock offered as baking powder; and powders which contained no borax being advertised as mixed borax for household use. This won the acclaim of press and public and helped pave the way for national pure food and drug legislation.

New York's death rate had been 20.57 per 1,000 in 1900. It dropped to 20 in 1901; 18.75 in 1902 and 18.20, the lowest up until that time, in 1903. The health department had never been so popular. But Tammany Hall won the election that fall and the start of 1904 found Dr. Lederle out of office with only the title of "honorary consulting sanitarian" in the department which he had headed.

Founds laboratory

He accepted an honorary doctor of science degree from Columbia and turned to private employment. As early as 1897 he had done some outside consulting work while a chemist for the health department. This was customary at the time. Dr. Park, Dr. Biggs and other physicians of the department held teaching posts. It was not until 1914, when salaries were larger, that the department forbade outside work for

its bureau chiefs.

Out of office, he formally organized the Lederle Laboratories for "chemical bacteriological and sanitary investigations and analyses" and opened an office at 518 Fifth Avenue in New York. Dick Wadsworth, who had been his health board secretary, continued with him.

The enterprise was capitalized at $15,000. Dr. Lederle was president. Directors included his wife's brother, Ronald Taylor, and her brother-in-law, W. L. Mellon. Secretary was Frederic D. Bell, a businessman who had served as auditor for the health department. The firm analyzed products for companies and checked milk and water for many communities that had no laboratories.

Dr. Lederle decided two years later there also was a business opportunity in the production of an improved diphtheria antitoxin developed in Dr. Park's health department laboratory. Starting with a $6000 fund raised by the *New York Herald*, the health department, already making some other antitoxins, in 1894 produced the first diphtheria antitoxin made in America. Its purity and potency were improved in the following years. Besides being supplied free to the poor of New York City, it was sold to other

This was the packaging line in 1920, still a manual operation. High-speed machines and conveyor belts were things to come.

cities and the drug trade generally.

As the original antitoxin imported from Germany cost $12 a dose and was scarce, there was at first only acclaim for the health department operation. But as producers became numerous and supplies ample, it was criticized for competing with private enterprise.

In 1902 a delegation of druggists and manufacturing chemists presented to Mayor Low a petition of protest signed by more than a thousand physicians and druggists. In consequence, the department limited its operations and stopped the sale of antitoxin outside of New York City.

Though it was higher in price, Chicago and many other cities continued to demand the refined Park formula antitoxin. To supply this, Dr. Lederle, on February 26, 1906, incorporated a second enterprise, Lederle Antitoxin Laboratories. It began with a capital of $28,000, soon increased to $50,000. Dr. Park invested $12,000 in the venture and served as technical advisor. Dr. H. D. Gill invested $4,000. Dr. Lederle was president and Frederic Bell was secretary and treasurer. Walter Johnston acted as vice-president.

Sales were entrusted to Schieffelin & Co., New York wholesale firm which dates from 1794. It was then headed by William Jay Schieffelin, who like Dr. Lederle was a graduate of the Columbia School of Mines. Antitoxin production began with horses in the veterinary hospital of Dr. H. D. Gill at 19 West 42nd Street, in New York.

Pearl River site

A 40-acre farm at Pearl River, N. Y., 30 miles northwest of New York City, however, was purchased for $4,500 on May 29, 1907, and production shifted there. At first, horse serum was sent into New York for testing, processing and packaging at 39 West 38th Street, where both Lederle enterprises were located. Soon tetanus antitoxin and typhoid vaccine also were made at Pearl River and eventually all production operations were centered there.

In addition to directing the two enterprises bearing his name, Dr. Lederle found time for many other activities. He took part in the affairs of chemical and public health organizations. For recreation, he had the Waverly Rowing Club and the Century Association, a New York Club originally made up of artists and writers. He was consulting sanitary engineer to the New York Department of Water Supply, and Governor Charles Evans Hughes named him to the New York State Water Supply Board.

Back in office

These two posts paid Dr. Lederle

$15.000 a year but he resigned them both to return to the $7500-a-year office of Health Commissioner of New York City when Mayor William Jay Gaynor asked him to do so in 1910.

At the same time, Dr. Lederle transferred his laboratory interests to his brother-in-law, Matthew Taylor. The analytical enterprise continued as Lederle and Provost, and then as the Pease Laboratories. The Lederle Antitoxin Laboratories expanded its line of pharmaceuticals and eventually became the largest division of American Cyanamid Company which purchased the organization in 1930.

"Modern science demonstrates the cleanest people as the happiest and longest lived," said Dr. Lederle as he returned to office. "We have a very keen ambition to turn over the city at the end of this administration cleaner and healthier than we found it." He did so and the city's death rate dropped from 15.98 per thousand in 1910 to 13.40 in 1914.

His administration proved busy and exciting. An inspector who was found condemning and seizing a carload of good potatoes and then selling them on the East Side filed a $25,000 libel suit against him. Lederle organized the department, led clean-up clinics, took over the supervision of bakeries, began dental clinics for school children, started a free school for midwives at Bellevue, banned the common drinking cup, fought an epidemic of typhoid, made poliomyelitis a reportable disease, started a monthly bulletin that bore on its cover the "public health is purchasable" slogan.

End of career

In 1913, Dr. Lederle returned to consulting work. During World War I, he volunteered his knowledge of German to the Alien Property Custodian and helped America to produce chemicals hitherto imported from Germany. He lived for a time in Brooklyn and then moved to Stamford, Conn., where he had long maintained a summer home.

In 1920 he became ill and a patient at the Interpines Sanitarium in Goshen, New York. On Feb. 15, 1921, Mrs. Lederle died at the home of a brother in Brooklyn. Three weeks later, on March 7, Dr. Lederle died of septicemia at the Goshen sanitarium. Both are buried in Greenwood Cemetery in Brooklyn.

But Dr. Lederle is not forgotten. Visitors to Pearl River find his picture, his scrapbooks and some of his correspondence with the great of his day enshrined in one of the 150 buildings of the laboratories. And from Pearl River hundreds of life-saving products bearing his name are now shipped to the ends of the earth.

This is the first of two articles on practice location

You can waste the next few months
in frantic chaos—
or you can plan an orderly campaign,
matching your ideas and needs
against a careful check
of available opportunities.
It's your choice . . .

Choosing Your Practice Location

"WANTED — Surgeon, qualified or certified. Locate large Midwest city, established group."

You've probably seen a number of journal advertisements such as this. The specialty will differ. The place may be West Coast, North or South, in any of the 48 states.

The point is that someone, somewhere, has indicated a need for a specialist.

You may be it.

But before you would consider answering an ad for your specialty, you first will have decided just about where you'd like to go into practice.

And that, as you well know, is a mighty big question.

Some residents have situations ready-made and waiting for them upon completion of their residencies.

A happy thought, but rare — excluding, of course, obligated military service.

For the majority of residents, the location of their practice is a question mark.

Although such alternatives as group or solo practice, industrial or private, are important, the question: "Where shall I begin my practice?"

is probably the most urgent and worrisome one you must face. And the earlier you face it, the better.

Here's why: (1) You may properly wish to take a part of your resident training in a hospital located in the area of your future practice. (2) You have a good deal of information to get together and perhaps a visit for a look-see before deciding. (3) There is competition. Some 8,000 residents are "graduating" next month.

Though many facts will have to come to you through the mail, a visit is a must if possible. (By getting it in during your vacation you'll save time.) So, with a little planning now, you can list yourself among those residents who have an opening all lined up and waiting for them when they complete their residency.

You may have one important complicating factor in the way: Though perhaps not interested in a military career, you still may be obligated for some service with the armed forces. Possibly part of your residency will be spent in the service.

Even so, you should get working now on a long-range plan for your future.

In service or out, obligated or not, there are some basic steps you can take now to get rid of the uncertainty about the location of your civilian practice.

Near home or away?

A big map of the United States and a heavy crayon will get you started. (Seems silly? We'll show you the value a little further on in the discussion.)

You'll also need some stationery for a few letters to line up opportunities, establish contacts, and get facts on the areas you've tentatively selected.

But first, do you want to locate near home or away?

Maybe you're not sure. Perhaps you've been away from home in the armed forces, probably during your residency — or while in medical school. In other words, you're not afraid to go away from home. But think first, is there anyone else to consider?

Partner

If you're married, then of course there is someone else to consider, someone pretty important. Your wife is a big part of this decision. Get her thoughts. "I'll be glad to follow wherever your work takes you." That's what the loving wife murmurs in the movie script and, in your case, it may be true. Or, she may follow and then take the next train back, alone. Don't take a chance on being disenchanted.

So, ask your wife; as a full partner she'll come up with some sound ideas. Besides, it is always better and smarter to discuss your big decisions with those who must share your success or failure. That's why you got married in the first place, remember?

How about your parents and in-laws, do they come into it? Certainly. Kinfolk provide an important backstop, one which can be rather comforting in an emergency.

Chances are they'd like to be near enough to visit you — at least occasionally. If you're too far away, the expense, their age, and the time involved will probably make visits rare.

So think carefully before you deny your future family a grandma and grandpa to visit. Incidentally, nearly everyone has "in-law trouble." It's generally something you can solve, or at least learn to live with. So make sure it's real big trouble before you pack up and hie yourself off to the other coast solely because of it.

But the big thing you're concerned with is your future in medicine.

You have your own life to live. Your family and her family should be the first to realize that. If your best opportunity happens to be out of town, go and get it. (Air travel will make your trips "back home" only a matter of hours.) Remember, opportunity, future growth, and perhaps increased income are sound reasons for your decision.

At home

Presumably, you've weighed the merits of your home town against moving into a new territory. If for one reason or another you've already decided that home is where your heart is, then your problem's down to workable size.

You'll know the hospitals, probably a number of physicians in practice, and can easily determine through personal talks the opportunities available.

If your father or other relative is established in medicine, you have an excellent entree, of course. Going it alone is a commendable thing. But only when you really are alone. Don't make the mistake of not letting your father help you with his advice and the many valuable associations he has built up over the years.

Keep in mind that no one worth considering will consider you're riding in on his reputation alone. Your ability will make or break you regardless of your personal relationships in the beginning. That's the way you want it. Every physician in town will know this.

And equally important, most of your patients instinctively feel that especially because your father is a doctor, you'll try to be as good or better or die in the attempt.

Merits

True, you'll face the inevitable comparisons. But comparisons between young and old doctors in the same town are common even when no kinship is involved. If your specialty differs from your father's, the problem practically disappears.

And too, even without tinting your hair gray, you will still be able to build a practice on your merits as a

the unique nitrofurans eliminate

problem pathogens

CASE REPORT: STAPHYLOCOCCAL OSTEOMYELITIS

Severe compound fracture of right foot led to a large, open ulcerated wound on the sole, with tarsal bones exposed and necrotic. Despite extensive debridement, removal of necrotic bone and attempted closure with a pedicle flap, the wound failed to heal and developed considerable purulent drainage.

Culture of pus revealed Staphylococcus aureus, *resistant to all antibiotics tested*, but sensitive to FURACIN. Daily irrigation was instituted, employing 1 part of FURACIN Solution to 4 parts normal saline. Depths of the wound were reached with a long #20 needle on a 20 cc. syringe.

Purulent drainage decreased considerably within a few days, stopped completely after 2 weeks of irrigation with FURACIN Solution. The open space beneath the pedicle flap gradually filled with healthy granulation tissue, and 6 weeks after institution of FURACIN treatment, healing was complete.

In clinical use for more than 12 years and today the most widely prescribed single topical antibacterial, FURACIN—like other nitrofurans—remains effective against pathogens which have developed, or are prone to develop, resistance to antibiotics.

FURACIN®
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Available as Soluble Dressing, Soluble Powder, or Solution. Also in Vaginal and Urethral Suppositories and in special formulations for eye, ear and nose.

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physician; and without any reference to your record as substitute halfback on the high school football team.

Map

Supposing you decide the home town just isn't for you. Now you're ready for the map and crayon. First "x" out those states and areas which don't interest you from strictly personal considerations. By eliminating those which aren't particularly attractive to you or your wife, you'll be surprised at how quickly your problem has been narrowed down.

Next, again from your own feelings, draw a heavy line around those states which you think might be most desirable. You are ready now to analyze specific areas.

Population

You probably would like to practice in an area where population is expanding. The United States Bureau of Census has projected population growth. Here's what they report:

1. Fastest growth is West and South. California will have more people than New York by 1965. Washington and Oregon also are adding new families at a rapid rate.

2. Nevada looks to be the fastest growing of all states with a gain of more than 40% expected by 1965. Arizona would be next in rate of growth with a gain of nearly 40%. In actual numbers, however, these states are still sparsely populated. Florida will move from 15th spot to 10th in population rank by 1965. Texas will pass Ohio, move into 5th from 6th place. (In recent years actual growth has surpassed Census Bureau projections.)

3. The United States will add about 30 million new citizens in the next ten years. Outside of the West and South, Michigan, Maryland, Delaware, and Connecticut will each continue to grow at a faster rate than the country as a whole. (See chart on population expansion by states.)

4. New York, New Jersey, Pennsylvania, Illinois and Ohio will grow at about the average for the nation.

5. Population growth will be slower in New England, the Southeast, and South Central states and in the Northern Central and Middle Western farm states.

The trend is established: People are heading toward the milder climates of West and South. California is expected to grow more than three times as fast as New York over the next few years with Washington and Oregon nearly equaling this rate.

So much for population trends. Now what about city, rural, or suburban practice?

Rural

For many specialties, the strictly rural practice doesn't exist. Country towns? Yes. But size is a factor. With some knowledge of fees you can pretty well estimate in your

"flooding the limbs with blood ...is a prime objective"[1]

in **intermittent claudication**

of **arteriosclerosis obliterans**
thromboangiitis obliterans
diabetic vascular disease

...also effective in **Raynaud's syndrome**
ischemic ulcers
night leg cramps

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Sends comforting, fresh blood where blood is needed most—to distressed muscles.[1,2] Tissue oxygenation and nutrition, and muscle metabolism are improved, spasm relaxed, pain relieved.

Arlidin is available in 6 mg. scored tablets, and 5 mg. per cc. parenteral solution. See PDR for dosage and packaging.

Protected by U.S. Patent Numbers 2,661,372 and 2,661,373

Samples and literature[1-5]

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particular specialty about how many cases it will take to keep you eating. True, any rural town will draw people from miles around. But how many miles? How far is the nearest hospital? How far is the nearest specialist in your field? If you are rural-minded, you should get the answers ahead of time.

Larger towns from 20,000 to 50,000 persons might be the minimum size for a "rural" specialist. Even here, remember that your practice probably won't be a wealthy one. The fact that farm income has dropped from 12% of national income in 1946 to 7.2% of national income in 1954 indicates the trend. Many of your patients won't be able to pay you promptly or well.

Farmers today are a big population group—some 20 million people living on farms (and about 31 million more in rural areas closely tied to the farm.) But there is a rapid decrease in farm population now taking place. And though most farmers are much better off than before World War II, still their income continues to shrink.

One other fact points up the squeeze on farm people. The price which farmers must pay for their tools, seed, etc., has increased while the prices they get for their products has decreased steadily for the past eight years.

This doesn't mean that a rural practice is an unsatisfactory practice in any sense of the word. It merely indicates that income-wise, the average country specialist is not in a position to increase his income as readily as the city doctor.

In spite of this, perhaps your mind is made up. You would like to move into an average-size farm community. You want the many pleasant social relationships which physicians in these communities enjoy. And if that's what you want, don't settle for less.

When you're country inclined, a city practice can dull your enjoyment of living as well as your practice of medicine.

Good and bad

Here are some factors to consider:

- A specialist often takes a rural practice as a challenge to accomplish something for those who really need his help. But hospital facilities are a big part of any specialty. You may find you're a long way from the base of your operations, consults, and lab facilities.

- Country people are friendly but very independent. What they "know" about their own medical affliction and its "proper" treatment will be kept to themselves. What you know and tell them about it may not be believed. Your instructions will sometimes be ignored. Since you may not realize that this is happening in any particular case, it will frequently be difficult for you to evaluate what you are actually accomplishing.

- You'll find you are in demand

"...the drug of choice[1] for the suppression of lactation..."

Vallestril®

(Brand of Methallenestril)

avoids most withdrawal bleeding; minimizes secondary breast symptoms and uterine subinvolution

Recent studies show Vallestril to be much more suitable for lactation suppression than other estrogens and androgens. In 872 nonnursing mothers, Vallestril was superior[1] to stilbestrol and testosterone.

Shook[1] states: "The results of this study indicate that withdrawal bleeding and inhibition of normal involution of the uterus constitute a serious objection to the use of stilbestrol and that stilbestrol treated patients usually have secondary lactation and breast engorgement; that testosterone is ineffective in suppressing lactation initially . . . and that Vallestril does prevent breast symptoms and lactation initially, is not followed by secondary lactation and breast engorgement, does not result in withdrawal bleeding and does not inhibit normal involution of the uterus."

Schneeberg[2] and his associates gave Vallestril to 198 patients with postpartum breast engorgement, pain and lactation. They reported: "The patients . . . achieved over-all results . . . somewhat better than those in patients receiving 3 mg. of diethylstilbestrol. . . . Untoward effects, even when large doses were used, were rare."

Only two 20-mg. tablets taken daily for five days suppress lactation and relieve engorgement and pain. Dosage for indications other than the suppression of lactation is described in Reference Manual No. 7. G. D. Searle & Co., Research in the Service of Medicine.

1. Shook, D. M.: Am. Pract. & Digest Treat. 7:917 (June) 1956.
2. Schneeberg, N. G.; Perczek, L.; Nodine, J. H., and Perloff, W. H.: J.A.M.A. 161:1062 (July 14) 1956.

SEARLE

for civic committees, clubs, and so forth, almost from the beginning.

● Circumstances may force you more and more into general practice.

● Associations with other doctors, especially with men in your specialty, are often few and far between.

● Peace, it's wonderful! You will work hard and long to keep going but your recreation is in your backyard. Fishing, hunting, local bowling and other group sports, all are relaxing and usually available.

● Small town gossip is no easy thing to get used to. Your errors will be magnified and distorted through tongue-wagging. A thick skin is a prerequisite for rural practice . . . especially if you're not a native of the area. It could take years to be "accepted."

● If you've got to have the top laboratories near you—if you can work only under the best possible conditions, don't be a pioneer in the wilderness. Face your requirements and you'll measure up more fully to your own abilities.

City practice

Although all cities are not alike, most are alike in one respect. They're crowded. If you don't like being up to your neck in hurrying humanity, stay away from the big cities.

If the hustle and bustle adds zest to your life, if crowds, fine theatres, museums, art centers, concerts, etc., are your interest, then city life, *big* city life is for you.

Professionally, a city offers many fine teaching and study advantages in the large municipal hospitals. But can you get in? Check first. City practice provides the welcome chance to compare notes with others of your specialty.

This also means you can get a competent man to cover your practice while you're on vacation.

Big league baseball, football, hockey, basketball — and medicine, can be found in big cities. But the best medicine is no longer exclusively city property.

Competition is keen, established men have a big edge, naturally. But some of these physicians are moving to the suburbs, thus creating a few openings on hospital staffs and in practice opportunities.

Clinic work is an important part of municipal practice — but the smaller cities around the country are coming up with top facilities in this respect and modern air-conditioned hospitals under the Hill-Burton Act are being built everywhere. Cities of moderate size such as Columbus and Toledo, Ohio; Rochester and Syracuse, N. Y.; Worcester, Mass., Jacksonville, Fla., Denver, Colo., Sacramento, Calif., all have big city advantages yet offer living and practice opportunities far less crowded than those in New York, Chicago, or Boston.

Suburbs

Sharing to some extent the advantages of city practice, while getting

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Mutual Benefit Life's Job:

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True Security is the ultimate in worry-free, trouble-free lifetime life insurance. As personal and precise as a prescription, it is created for you and you alone — matched to *your* particular earning curve, *your* present needs, *your* future objectives.

Using current facts about your job, your family, your Mutual Benefit Life man considers your every future provision in the plan he creates for you today. Only such a plan — based on today, built for tomorrow — can offer you True Security.

Now is the time to investigate True Security. It is now offered with the fullest, most liberal coverage in Mutual Benefit Life's 113-year history, and at a new, low cost.

MUTUAL BENEFIT LIFE

The Insurance Company for TRUE SECURITY

THE MUTUAL BENEFIT LIFE INSURANCE COMPANY, NEWARK, NEW JERSEY

away from many of its disadvantages, are the suburbs.

According to a recent survey of Fortune magazine, suburbs are the fastest growing areas in the United States.

In attempting to define "suburbs," one physician said: "Start going in any direction from Main Street — you'll know when you've hit the suburbs." And you will. The distance you must go out from "Main Street," of course, varies according to the size and shape of the city.

But all suburbs have lots of young families; new and near-new ranch, cape cod, and split-level houses; multiple-store shopping centers, and new schools for the growing community. These are the well known identifying marks of the average new suburban area.

But no matter how you may feel about suburbia, the fact is that suburban living is attracting more and more people. Most of these are convinced it is the ultimate in the way to live. Maybe you'll agree.

In the suburbs you can be close enough to the city to utilize most of its professional, cultural, and recreational advantages, yet be far enough away to breathe relatively clean air and enjoy a little uncluttered sunshine as a steady diet.

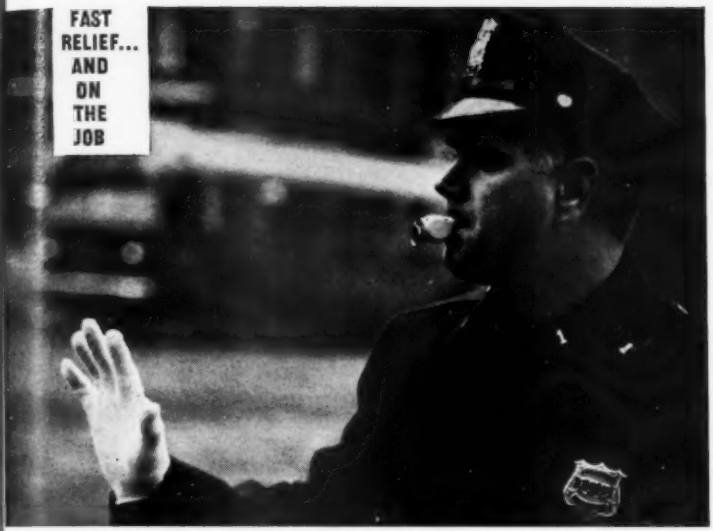
In one Eastern suburban community, three physicians were in practice in 1951. This year there were 17. In the same period, population jumped from 2,000 to 18,000. The fact that many of these new arrivals to suburbia are young people is an advantage to the new physician. Getting acquainted is easy, there are no solid cliques formed, no walls to knock down. But often there are hospitals to build and schools that need immediate expansion. You may have to lead the civic parade for fund raising.

Many department stores from the city are grabbing up spots in the suburbs just to get in and established first. They evidently believe that the suburbs are going to be here to stay. You might draw the same conclusion and follow their example in locating your practice. Importantly, new medical groups are forming all the time, new clinics and group practice centers of modern design are springing up. Here might be your opportunity.

One disadvantage: It will be difficult to determine whether or not your specialty is needed without going to see for yourself. The growth is so rapid that new openings are appearing all the time. But old ones are filled quickly so any information you may get through the mail might be outdated before you get to read it.

Getting some facts

Let's say that now you've got it narrowed down. Whether urban, rural or suburban (you may not be sure) you at least have a few areas you'd like to look into. Start off with brief letters to the state and city chambers of commerce. Ask for any information they would have for you



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SOOTHING ACTION... Kaolin and pectin coat and soothe the inflamed mucosa, adsorb toxins and help reduce intestinal hypermotility.

BROAD THERAPY... The combined antibacterial effectiveness of neomycin and Sulfasuxidine is concentrated in the bowel since the absorption of both agents is negligible.

LOCAL IRRITATION IS REDUCED and control is instituted against spread of infective organisms and loss of body fluid.

PALATABLE creamy pink, fruit-flavored CREMOMYCIN is pleasant tasting, readily accepted by patients of all ages.

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Each 30 cc. (1 fluid ounce) contains:

Sulfasuxidine (succinylsulfathiazole) 3.0 Gm. Pectin ..... 0.4 Gm.
Kaolin, colloidal ..... 3.0 Gm. Neomycin sulfate ..... 300 mg.
with flavoring agents added.

MSD **MERCK SHARP & DOHME**
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

concerning climate, income groups, housing, schools, hospitals and so forth. Tell them you are considering establishing a home and business in the state. This is just general information to help you get a better idea of the area—not of practice opportunities—so you needn't mention that you are a physician.

The second step may be taken at the same time. Write to the state medical society, attention Physician's Placement Service (most societies have such a service), asking for any information they might have for a physician of your specialty seeking an opportunity. Don't send a long biography—just your specialty and whether you are board certified or qualified.

Now you're on your way to getting information.

In a subsequent article, we will discuss the "how" of locating; the steps in an orderly plan for getting and evaluating openings in your chosen area.

One more thing: thousands of physicians change the location of their practice each year. Thus, your choice is not final.

But your chances of sticking are much improved if you check the situation carefully before you move in.

Start checking now.

Tom O'Mania, M.D. **House Physician**

"Maybe if you went to school a little longer you could take care of my diabetes, too!"

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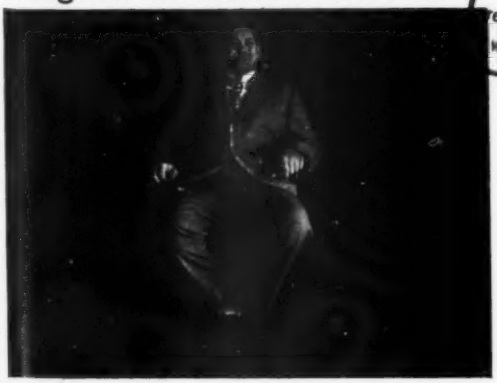

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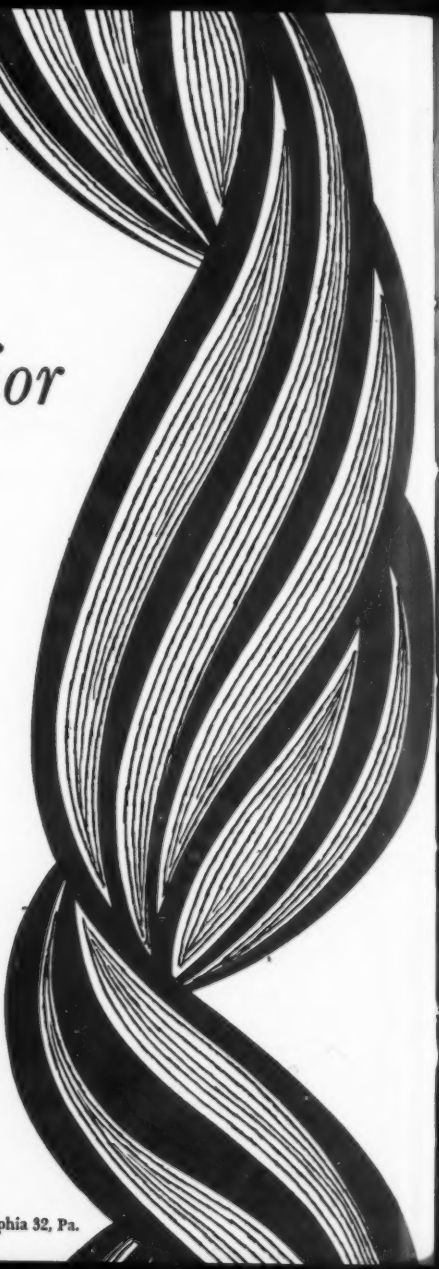

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in common traumatic, orthopedic, arthritic and rheumatic disorders, including: low back pain • sprains • strains • rheumatoid arthritis • osteoarthritis • spondylitis • myalgia • fibrositis • cervical root syndrome • wry neck • disc syndrome

EFFECTIVELY RELIEVES SPASM AND PAIN—In a controlled, double-blind study, marked improvement was reported in all but one of 15 patients treated with PARAFLEX.[1] Another investigator noted that symptoms were at least partially alleviated in all of the patients treated.[2]

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SUPPLIED—Tablets, scored, orange, bottles of 50. Each tablet contains 250 mg. of PARAFLEX.

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CLINICAL RESULTS WITH PARAFLEX

Investigator	Disorder	Number of patients treated	Number of patients benefited	Comment
Settel[1]	acute low back pain, acute traumatic myofasciitis, or osteoarthritis	15	14	response excellent in nine, good in five
Holley[2]	wry neck, cervical spondylitis, and disc syndrome	10	10	improvement, ranging from some amelioration of symptoms to profound relief
Wiesel[6]	advanced osteoarthritis	12	10	less muscle spasm and pain
Passarelli[7]	degenerative and rheumatoid arthritis	9	9	improvement, with less stiffness and freer motion
Passarelli[7]	varied arthritic rheumatic, and traumatic disorders	6	6	less stiffness, less pain
Totals		52	49	

*Trade-mark †U. S. Patent Pending

Minors Medicine and the Law

Scientific advances have had a broadening effect on the law as it concerns minors and their medical care. In many jurisdictions even the unborn child has been granted certain legal rights.

George A. Friedman, M.D., LL.M.

Until a few years ago, a child *en ventre sa mere* legally had no existence apart from his mother. Consequently after the infant was born, he could not recover for injuries tortiously inflicted upon him prior to birth.

Because of modern medical knowledge, however, the legal rights of the unborn child have been widened in many jurisdictions either by statute or judicial decision.

In a 1940 New Jersey case, a physician negligently diagnosed a pregnant woman's condition and administered x-ray treatments to her, thus injuring the foetus who was born a microcephalic and an idiot, without skeletal structure, sight, speech, hearing or the power of locomotion. The court held the infant could recover for damages inflicted on him before birth.[1]

Care at childbirth

Physicians attendant upon a mother at childbirth have a duty to care for the child as well as the mother. In *Walden v. Jones*, a physician had two deliveries to make within a short time of each other. He neglected to provide himself with silver nitrate for the infant's eyes at the first birth, and because he had to rush to the other birth had no time to purchase the prophylactic. The infant became blind.

Court held that the failure to in-

sert the drug in the infant's eyes was negligence both as a violation of the regulations of the Health Department and common practice of other physicians.[2]

Dietsch v. Mayberry[3] was a case in which a physician failed to report inflammation of a newborn's eyes to the Health Officer as required by statute. After treating the inflammation for 11 days, defendant suggested calling in a specialist, who was unable to save one eye. Judgment was against the physician defendant.

Note that in this case defendant physician was not responsible for original condition of the eye. The negligence in this instance consisted only in the violation of the statute. The child might have had a good chance of recovery through immediate notification of authorities who could have authorized proper treatment.

Agents' acts

A physician is liable for the acts of his agents. A surgeon instructed a hospital intern to apply silver nitrate to the eyes of a newborn. The task was negligently performed and infant lost use of his right eye. The surgeon was held liable for the acts of the intern. Although the intern was employed by the hospital, he was under the orders of the surgeon in this case. The surgeon had control of the operating room and had "borrowed" the intern of his own free will.[4]

The legal duty of a physician requires him to possess and exercise that reasonable and ordinary degree of learning, skill and care commonly possessed and exercised by reputable physicians practicing in the same locality, or in similar localities, in the care of similar cases. He need not exercise his best skill or abilities and he certainly is not an insurer of cure.

Pediatrician

A specialist must exercise more than the reasonable skill required of an ordinary physician in his chosen field. He must have that knowledge and degree of professional skill of similar specialists in the community. A pediatrician has been held to be such a specialist as well as a doctor who specializes in a particular disease or organ. A pediatrician

holds himself out to have specialized knowledge in the field of children's diseases.

In *Atkins v. Cline*,[5] the associate of a pediatrician, also a child specialist, visited a 9-month-old boy with 102° temperature, nausea, diarrhea, and an inflamed throat. He diagnosed the illness as a cold. The next day the boy had 104° and his breathing could be heard downstairs. The physician said, "The boy is not sick. All he needs is a rest."

The following day he was removed to the hospital where he was operated upon by a throat specialist. He died. The court held the jury could find *both* physicians guilty of malpractice in that the diagnosis was erroneous.

The case is unusual in that there was no evidence presented as to the regular methods other pediatricians would have adopted. Apparently, it was a matter of common knowledge that a boy with 104° was sick and needed special treatment which the associate failed to give him.

A similar case decided without expert testimony disapproving treatment or lack of it was *Gray v. Weinstein*.[6] A 2½-year-old boy swallowed a dozen aspirins. Several hours later, he started to vomit and parents took him to defendant's clinic. On the doctor's instructions, the nurse gave the child an enema.

The physician arrived some 11 hours later. By that time, the child was feeling better and was walking unassisted and drinking water. The physician used a stomach pump, returned the child to his room and left the room.

The child died within 20 minutes. The doctor remarked, "Poor little fellow—he couldn't take it."

The court held a finding of negligence would be reasonable in the 11-hour delay preceding examination of patient, and failure to see if patient "could take" stomach pump.

Anesthesiology

A physician who administers anesthesia is under a duty to use reasonable or ordinary care in its administration, and if he has specialized knowledge in the field, he owes a higher duty to his patients than a general practitioner. The physician is not responsible for results arising from the peculiar temperament of the patient of which he is unaware.

In a 1954 Texas case,[7] a 15-year-old girl underwent surgery. Ether was used as the anesthetic and patient died. The death was an unavoidable accident since the physician was unaware of the child's sensitivity to ether.

Dr. McGehee *(Wells v. McGehee*[8]*)* examined the heart of a child with a stethoscope preparatory to applying chloroform and setting a fracture. The child died under the anesthesia within a few minutes. No negligence was proven in the administration of the chloroform. The court held that the preliminary examination and the

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type of anesthesia used were proper since other doctors in the locality used similar methods.

If a doctor uses reasonable care in the selection of an assistant to administer anesthesia, he is not liable for the negligence of his assistant.

A child died during a tonsillectomy and the evidence indicated that cause of death was an overdose of ether. The operating surgeons were not liable for the administration of the anesthesia or the resulting death.[9]

Consent

A surgeon must obtain the consent of a child's parents or guardian before operating on a child unless an emergency exists and it is impracticable to obtain such consent.

In *Wells v. McGehee*, the child was injured at school and taken by the principal to a doctor's office. Principal attempted to reach the mother by telephone but was unsuccessful. The doctor thought it essential to set the fractured arm immediately. The child died under anesthesia. The court held that not obtaining consent under the circumstances was not fatal to the physician's cause.

In a 1952 case,[10] a surgeon removed patient's Fallopian tubes during an appendicitis operation since he feared the swollen tubes would break and cause peritonitis. The minor's stepmother was present at the hospital during the operation.

The court held that it was for a jury to determine whether an emergency existed, i.e., whether the patient was in immediate danger of death unless the tubes were removed, or whether another operation would have endangered patient's life. Under these circumstances and no other would it have been impractical to obtain the stepmother's consent.

Consent to an operation obtained by the hospital is sufficient to relieve the doctor of liability since that consent is obtained by the hospital for the benefit of the doctor, who can avail himself thereof.

Statute of limitations

Ordinarily, the statute of limitations begins to run from the time of the physician's wrongful act. The length of time it runs varies from state to state, usually one to three years in the case of malpractice actions.

In the case of minors, however, in most jurisdictions the statute is *tolled*, that is, it doesn't begin to run until the infant reaches his majority. The statute of limitations can be tolled only by a tolling statute. Most such statutes permit minors to sue within one year after reaching majority.

A minor sued a physician in Florida[11] for negligently treating a laceration of the right arm causing great damage to the plaintiff. The suit was instituted after the three year statute of limitations for personal injuries had run. The court

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held that this statute of limitations ran against the minor since minors were not expressly exempted from its operation.

A New York court held that while a minor's right of action for personal injuries was saved for one year past his majority, the New York tolling statute did not save a father's cause of action for loss of services and medical expenses incurred from injury to the minor.[12]

Time factor

Even if the child's cause of action is saved until he reaches majority, other considerations may influence the court in favor of defendant. *Hubach v. Cole*[13] was an appeal from a judgment of $10,000 against physician defendant. Four-year-old plaintiff developed a pink mark on her forehead which defendant diag nosed as a birthmark and treate with radium.

It turned out to be scleroderm which experts testified to be indistin guishable from a birthmark excep in the matter of development. Plain tiff filed action 12 years later claim ing erroneous diagnosis and radiu burns from treatments within tw weeks of each other.

There was testimony that in 192 treatments were three months apar In 1934 parents claimed treatmen were two weeks apart. In holdin the weight of evidence in favor o defendant, the court said:

"While the statute of limitation would not run against plaintiff du ing her minority, we are neverthele of the opinion that a just apprais of the testimony of her custodia

Within the dermal papillae beneath the epithelium are Meissner's touch corpuscles—cylindrical bodies that help account for the acuity of the tactile mechanism. For the sense of pressure and heat, the sensitive somesthetic system is rounded out by Pacini's corpuscles and Ruffini's spindles.

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1. Feo, L. G., et al.: J. Urol. 75:711 (April) 1956.

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requires the court to consider the fact that with full knowledge of the facts, they delayed filing this action for 12 years. Her custodians were adults. They had the power to institute this action during all those years. They knew the facts. Why such delay? Aggrieved persons ordinarily do not postpone asserting rights so long. We consider that in reaching our conclusion."

In a Texas case, 15 years elapsed before suit was brought charging a surgeon with removing the uvula, palate and tonsillar pillars of a four-year-old during a tonsillectomy.[14]

Expert testimony showed that intervening causes could have removed the organs during the 15-year interval and in absence of positive proof, judgment was for defendant. The loss of evidence, the death of necessary witnesses, are vital factors which operate against plaintiffs in delaying law suits, although such delay may be timely under the law.

Third person liability

Physicians have a duty to warn others of the danger of infection from contagious diseases. When they fail in this duty, they are liable to persons contracting the disease as a result of such failure.

In *Skillings v. Allen*,[15] parents visited a hospitalized child ill with scarlet fever and themselves contracted the disease. They were not warned by physician that the child had a contagious disease. The physician was liable to parents for damages.

In jurisdictions which permit wrongful death actions, physicians are liable to the parents or guardian of a child who dies as a result of negligent mishandling. The damages consist in the value of the child's services from the time of injury until majority, less the cost of support and maintenance.

A $1000 award was allowed in the case of a feeble-minded boy who died after a tonsillectomy. His feeble-mindedness, the fact that he would have been a financial burden to his parents had he lived, was taken into account in determination of the award.[16]

The boy's feeble-mindedness was a factor also in the determination of doctor's negligence. The doctor testified that the "boy died in his own vomitus." A normal child would not have done so. The doctor was negligent in not advising supervision and hospital care after the operation.

Damages in some jurisdictions also include pain and suffering. In an Arkansas case, grandparents, the child's custodians, were allowed $2000 for their pain and suffering from the death of their grandson from negligent treatment of a head fracture. The $2000 was in addition to other damages they received for loss of services.[17]

Liability for services

Parents are liable for necessary

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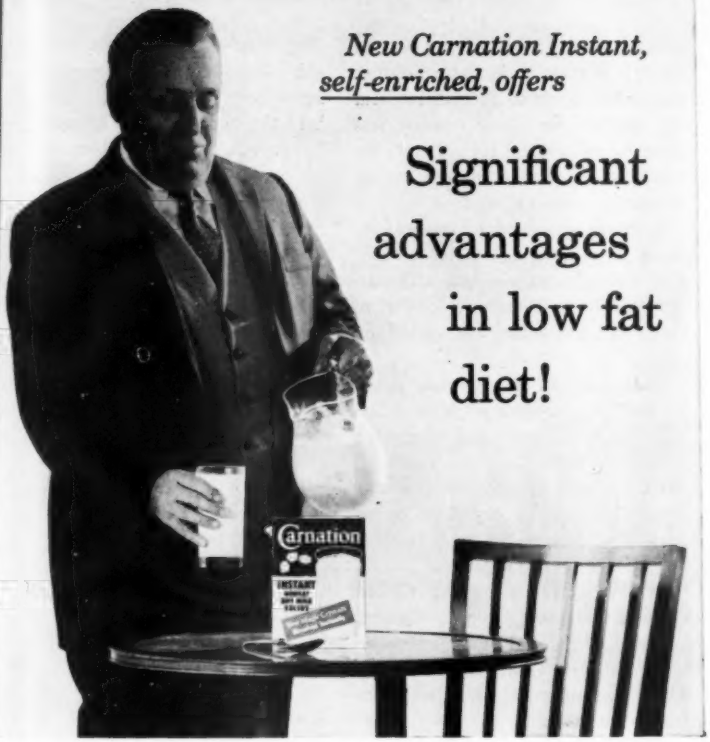

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medical attendance to minors. In *Owen v. Watson*,[18] the natural father was called upon to furnish medical care for his son whose custody was awarded to mother. He refused. He was held liable to a surgeon for an appendicitis operation.

A father whose minor son was injured in a basketball game was liable for physician's bill although son did not have father's consent to play, and physician was called by coach.[19]

Ordinarily, an infant is not liable for medical expenses while he is living with his parents and supported by them. There is some authority indicating that an infant is liable for necessary medical expenses if his parents are unable or refuse to provide them.

In a Michigan case, a physician received payment from judgment awarded an injured minor where he was abandoned by his father.[20] There was no contract between infant and doctor.

A minor cannot bind himself or his estate by contract even for emergency medical services while he is living with and supported by his parents. In *Foster v. Adcock*,[21] the court refused to hold a minor's estate liable for medical expenses where the father had recognized his obligation to pay, despite the father's later financial disability.

Binding

An infant's contract for medical services is binding where he is emancipated or his parents are unable to or refuse to supply these necessaries. Thus, a Michigan case held that a 19-year-old minor whose father was dead could bind himself by contract for necessary medical services.[22]

A contract made by a minor for medical services which is voidable during minority may be saved by ratification after the infant reaches majority.

This was the case in *Smith v. Mooney*,[23] where the court expressly refused to decide whether the physician could have recovered during the child's minority when she was living with her parents who recognized their responsibility to her.

Public health

A physician must obey regulations of the Board of Health of his city or town. For example, the birth or death of an infant must be filed with the designated agency. In case of stillbirth, some cities have special Stillbirth Certificates. Where a live birth is followed by death, filing of both birth and death certificates is usual.

The Board of Health in many cities requires that a prophylactic be inserted in the eyes of a new born and that inflammation of the eyes of a new born be reported immediately. Failure to obey these regulations may result in judgments against physicians if such failure causes damage to patients.

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spreading infection and must take heed of the Quarantine regulations of their community.

States and municipalities have ample authority to adopt regulations concerning the public health under their police power. It is thus valid to require vaccination of the entire community, or only of school children, or in the threat of an epidemic.

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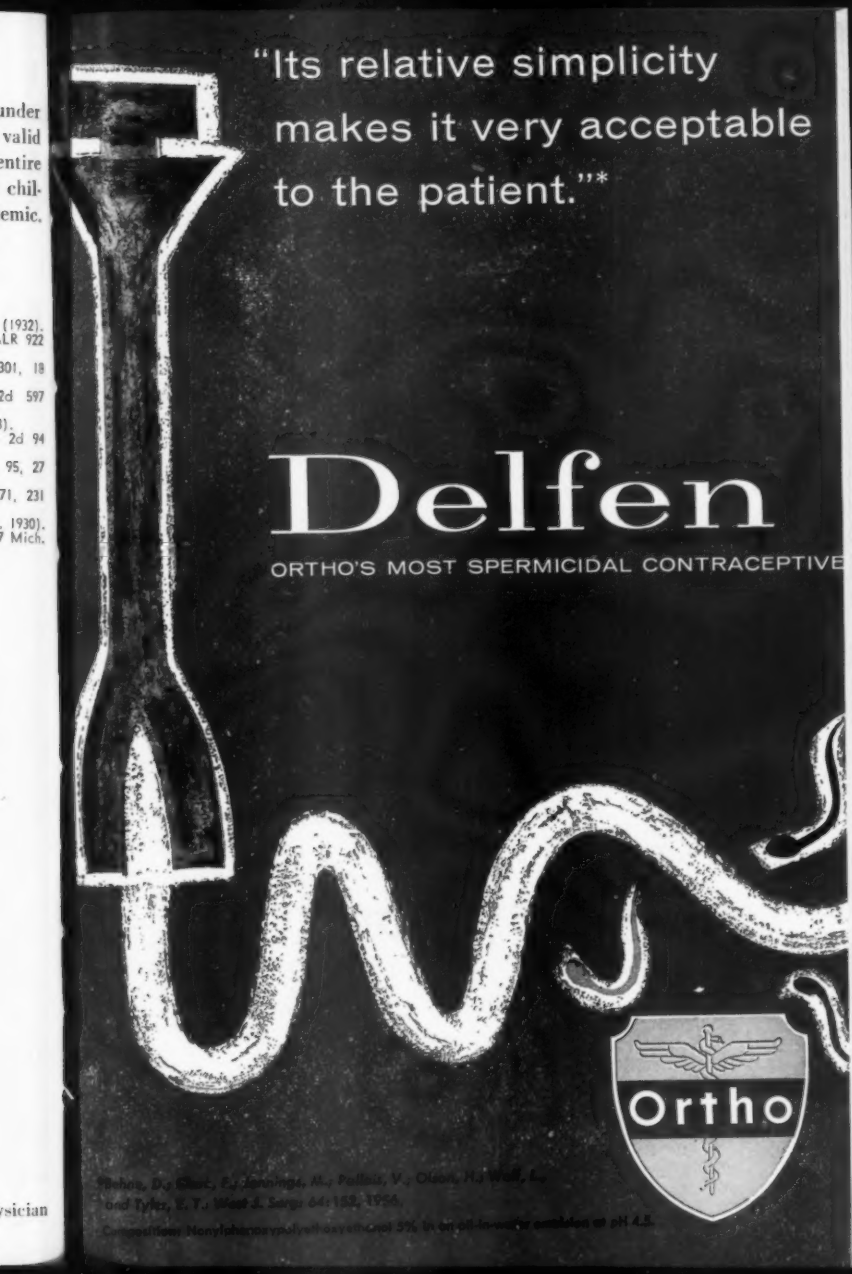
Dermatology Board Note

It has been the experience of many chiefs of service in dermatology training centers that during the months preceding the examination the candidates spend much of their time in intensive preparation for the examination, as if passing the examination were the essential aim of the training. It has never been the intention of the Board that the qualifying examination for testing a candidate's competence should usurp so much of the time assigned to his training.

To correct this fault the Board intends gradually to separate the date of the examination from the date of the termination of the training period, so that eventually neither the written nor the oral examination can be taken until approximately one year after the termination of the candidate's three-year training period.

This one year of experience prior to taking the examination will be considered a sufficient substitute for the two years of experience required in the past. The certificate of the American Board of Dermatology will then be awarded immediately after the successful passing of the examination.

——A special notice in *A.M.A. Archives of Dermatology. April 1958*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Wanted: Summer Camp Physicians

Hundreds of summer camps for kids are looking for physicians. From Maine to California, Minnesota to Florida—and lots of places in between, camp directors are searching for doctors.

Despite what you may hear about winter vacations, July and August are still the biggest vacation months for millions of U.S. youngsters. With a big check sent on ahead by dad, the kids are packed off to one or another of the summer camps to spend a week or two months (depending on dad's ability to write big checks) getting sunned and funned and filled (well, almost) with good food.

And you can get the sun and the fun and the food—plus a salary—for watching over the infrequent hurts

and occasional fevers of a group of these youngsters.

You say you're not a pediatrician? Who cares? You *are* a physician, have license, will travel. That's what harassed camp directors are looking for. And they're looking right now, this month.

Pediatrician or not, remember, most kids who have summer health problems are involved with such things as poison oak or ivy, cuts, bruises, abrasions—possibly a behavior problem every now and then. And, pediatrician or not, for the rare child in camp who develops something which might indicate a need for hospitalization, you'll be able to determine that fact without difficulty.

Keep in mind that camp authorities will ask you to supervise an outpatient clinic, not a children's hospital for acute diseases.

If, by chance, you are asked to do more than that, you'll know what to tell them without our prompting.

Enter practice?

Let's suppose you're completing your residency this June and have considered the possibility of beginning your private practice during the summer months? A good time?

Well, summer is vacation time for most families. It's also recreation and relaxation time. The warm days may bring sunburn, cuts and minor infections, maybe some heart cases, too. But in most specialties, the hot weather brings a lull in practice.

So, from an income point of view, (remember, your debts are biggest your first day of practice) summer just happens to be about the worst time to jump into solo practice. Most physicians in practice advise: open up your office in the early fall.

If you go along with this advice, your next question might be: "OK, so I postpone the practice debut, what'll I do this summer?"

Well, there are lots of things you *could* do. For example, if you happen to be independently wealthy, a nice trip to Switzerland would be fun. Or perhaps a week on the French Riviera would be more to your taste.

Or, perhaps you are still looking for a place to practice. Now's a good time to do a little looking around, investigating possible locations and talking to some of the physicians who may be able to help you get located.

SALARY

What is the exact salary? (Is there a contract?) Most camps figure your pay by the season, vary from $500 to $900 for a 7- to 10-week season. How is the salary paid? At the end of the summer period, weekly, or monthly?

WIFE

Are there facilities for your wife and family? Some camps will give your wife a job as your aide or a group leader or camp supervisor; some may accept your children at a reduced fee. Ask about this.

LICENSE

Is a state license needed in the state where the camp is located? The camp will probably have this information from past experience. For example, in some areas this is a must, in others a temporary license will serve the purpose, and in some it is required of a physician to be eligible for a state license and have a licensed M.D. in town as supervisor.

ASSISTANT

Will you have an assistant? Many camps will have a nurse on the payroll. Most won't. Some may have a medical student as a counselor. Needless to say, a junior or senior medical student would be invaluable.

If you're not locating this year—and if you happen not to be rich enough to afford a luxury cruise you might just be thinking of earning a little something to help you get off to a better start in your practice come November.

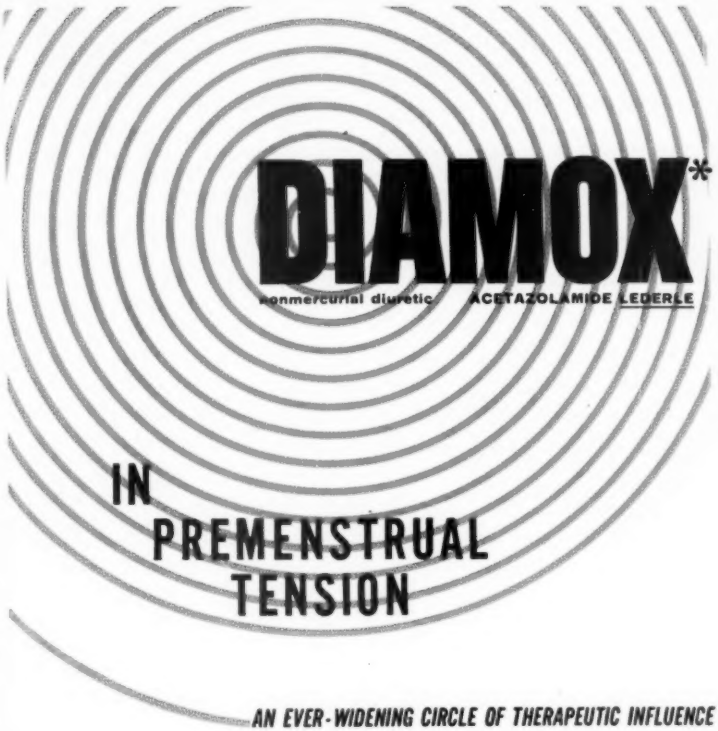
And if that's your case, look into summer camp openings. Here's a golden opportunity to get paid a salary where there's little opportunity to spend it. At the same time you'll be able to run your own little private practice (you'd be surprised at the practical information you'll be able to pick up applicable to your own practice later on) and most important, you're almost certain to have yourself a real ball.

Maybe you're right in the middle of your residency, have only a few weeks vacation coming. It'll still work out. Many camps allow what they call a "split season," take on one resident who guarantees them a replacement from among his colleagues to finish out the season. You can team up with another resident and stagger your vacation times to give full season coverage to one camp.

Early application

After all, most educators heartily endorse the idea of your taking a real break from the hospital routine—out in the wide open spaces where you can get a little tone and color into your body. (Man, have you looked in the mirror lately?!)

Now, if you think this might be



AN EVER-WIDENING CIRCLE OF THERAPEUTIC INFLUENCE

Welcome relief can be the rule rather than the exception in the treatment of premenstrual tension so often associated with fluid retention.

Patients report marked improvement of physical and emotional well-being on a simple regimen of DIAMOX—½-1½ tablets daily, depending on weight. Treatment begins 6-10 days prior to onset of menstruation, or at the onset of symptoms.

Well-tolerated, a single oral dose of DIAMOX offers convenient daytime diuresis and nighttime rest.

Supplied: Scored tablets of 250 mg.; Syrup containing 250 mg. per 5 cc. teaspoonful and vials of 500 mg. for parenteral use.

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*Reg. U. S. Pat. Off.

CONSULTATION

Are there hospital facilities in town? What arrangements has the camp made with the hospital? Is there a local physician available to help you when needed for consultation? Have arrangements been made for you to hospitalize a seriously ill child?

DISPENSARY

What are the facilities of the dispensary? How well is it equipped? Be specific. Do they have an inventory of medical supplies on hand? Who is to decide what materials are needed. Will they take your recommendations as to the needs and supplies of the dispensary?

a good plan, get started on it right away. Camps hire ahead of time; they're now filling July through August positions. Your application may be a week early. That won't hurt. But if it's a week late, you're out of luck.

The growth of summer camps during the past ten years has been just short of phenomenal. Bigger families, a rise in the general economic level are two reasons. Along with the growth and development of summer camps, there has been a tremendous increase in the demand for camp physicians. *Jobs are plentiful enough so that the resident who starts looking early* usually will get one that fits his specifications.

Hospital bulletin

One of the quickest and perhaps easiest ways to find out about openings is to keep an eye on your hospital's bulletin board. Most camps start sending out notices to hospitals in their areas about February. If you haven't seen any posted in your hospital, stop in and see the administrator's secretary. She may know of some that have come in but, for some reason, haven't been put on the bulletin board.

Your local medical society frequently will get a request for camp physicians. A telephone call to the society or a careful look-through of the classified section in the society's journal may turn up something.

Agencies

Established physician placement agencies in your area are excellent sources for part-time and summer camp positions. (You will find their ads in the classified sections of this and other medical journals). Many camps list with the same agency year after year. The agency can help you evaluate the kind of setup you will be getting into. Again, if you apply early, you'll get your pick of camps.

In your letter to the agency, be sure to give dates and desired areas.

for the orthalimentation of infants

ORTHALIMENTATION* =

Correct Nourishment–in quantity, quality and balance

In a period when medical progress has made *hypo*alimentation an academic formulation rather than a real problem, the interest of those concerned with correct infant feeding is directed more toward the excesses of *hyper*alimentation.

The clinical objective of orthalimentation is to achieve a balance between either extreme by the introduction of correct nutrients into the infant's alimentary tract. In practical terms for infant feeding, this means a feeding which, in both content and clinical benefits, is the closest possible equivalent to human milk.

SIMILAC meets these clinical criteria in content and balance of protein, fat, carbohydrate and vitamins, and in minimizing complications in infant feeding.

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*ORTH ('Ορθός) ALIMENTATION *is the subject of a monograph issued by Ross Laboratories, which is available to you on request.*

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COVER

Here are important items which should be settled in advance! What are your days off, if any? Will you have anyone to cover you? In some camps the physician is on duty the day he starts to the day the summer ends. In others, the physician will have one day off, or one week end off periodically; his place will be taken by a local physician from town. This depends on arrangement between you and the camp, but it is always better to settle these points before the contract is signed.

SPECIAL CARE

Must all children have physical examinations by their private physicians *prior* to their acceptance by the camp? Will the camp knowingly accept diabetics, allergic or cardiac children (requiring constant and specialized care)? If so will you be responsible for their maintenance therapy and management?) If the camp makes an extra charge for such children, will you receive a fee?

TRANSPORTATION

Will you be paid for your transportation to and from the camp —in addition to your regular salary?

MALPRACTICE

Are you covered by a malpractice policy? If not, will the camp pay for such a malpractice policy if you take one out for the duration of your camp job?

Since a personal interview with camp authorities is usually necessary, you'll probably be wiser to limit your preferences to your home or hospital area.

Newspapers

The Sunday supplement and classified section of your newspaper may contain a few ads specifically calling for camp physicians. If you are in a small town with a newspaper of very limited circulation, this is less likely to be true. In that case it will be worth your while to purchase a metropolitan newspaper.

How about letters? Certainly. Writing directly to camps that you may have attended as a youngster or to a camp that you've heard about may offer some information.

A few of the national and "family" circulation magazines carry advertisement of summer camps. While there won't be any ads for camp physicians, you will get a good supply of camp names and addresses; also, camp associations.

Write directly

Frequently, camps will be grouped together in an association based on religious, fraternal or regional basis. The YMCA and the YMHA, the Boy Scouts, Girl Scouts, Police Athletic Leagues, certain church and religious organizations often have many camps under a group jurisdiction. It may prove a good shortcut to write directly to the camp association headquarters requesting infor-

now,
for shorter labor,
easier delivery

an essential hormone of parturition to reinforce the normal physiology of childbirth

Cervilaxin

(relaxin, National)

CERVILAXIN relaxes and softens cervical tissue thereby shortening labor and easing delivery.

CERVILAXIN may be used in *any* delivery, but it is of particular value in frank labor with slow cervical dilatation, in primigravidas, and in multiparas with histories of difficult labor. It may be used alone, or in conjunction with oxytocin.

Birnberg and Abitbol[1] using CERVILAXIN and oxytocin, reduced the time of normal term labor in primigravidas and multigravidas by more than 50% when compared with a series of women receiving oxytocin alone.

CERVILAXIN offers these advantages to your patient—

- shortens time in labor
- lessens danger of fetal damage (brain injury)
- easier labor—less pain—less trauma—less need for intervention
- reduces danger of uterine rupture due to the failure of the cervix to dilate
- makes the use of oxytocin safer

Dose: CERVILAXIN for administration by intravenous drip, is supplied in 2 ml. vials containing 20 mg./ml. Complete instructions with each package.

1. Birnberg, C.H., and Abitbol, M.M.: Obst. & Gynec. *10*:366, 1957.

Products of Original Research

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Philadelphia 44, Pa.

TRADEMARK CERVILAXIN CE-917/58

mation about physician openings in any of their summer camps.

One big national group, the American Camping Association, maintains headquarters in Martinsville, Indiana and has regional or district offices located around the U.S. for placement of camp counselors, nurses, and physicians. Write to Hugh W. Ransom, Executive Director, at the headquarters. Be sure to mention the areas you are most interested in.

Brief résumé

In your first letter to any camp inquiring about an opening, give a brief résumé of your training, licenses if any, and the exact date you will be available. Request some screening information from the camp also. For example, find out the period you will be required to serve and a probable salary.

This is one way to eliminate the negative. For instance, it is pretty obvious that if the camp wants you to start before your residency is completed, it would be a waste of your time to continue the correspondence with this particular camp.

If your letter is satisfactory and the distance is not too great, the camp will probably request a personal interview. Prepare yourself for this as you would for any interview. Also, consider the fact that in this particular position there is just as much that you want to know about the camp as the camp must know about you. You will be ready

DUTIES

Do you have any other duties besides strictly "professional care" of the campers and camp staff? Some camps try to have their physicians double as nature counselors or advisers.

SINGLE RESIDENTS ONLY

We aren't making any promises, but we know of one resident physician who took a summer camp job and got an unexpected bonus. He met and married one of the camp counselors. Bachelor residents may take this as a warning or as a ray of hope in connection with summer camp physician appointments.

PROBLEM WIFE?

We mentioned that your wife may be welcomed at camp, all expenses paid. But, in our talks with a number of camp directors, we learned of one problem: *The wife with nothing to do.*

By and large, camp directors consider the camp physician's wife a problem—*unless* she is willing to help out in some small way with the camp's activities. Camp directors will usually offer her some job as assistant to a counselor, arts and crafts supervision, picnic manager, or some such position—and are happy to pay her for her efforts. So if you want your wife to be with you at camp, make sure you let the director know her qualifications for helping out—and the fact that she is willing to accept some responsibility in connection with the camp's operation.

"Doctor, Tommy's thrown up three times!"

'Thorazine' promptly controls the vomiting of acute gastroenteritis. Even when vomiting has been protracted, the profound antiemetic effect of 'Thorazine' helps to restore food intake and hydration, thereby eliminating the need for parenteral fluids.

THORAZINE*

Especially for pediatric use:
'Thorazine' Syrup and 'Thorazine' Suppositories

Also available in tablets, ampuls, Spansule† capsules and the new 10 cc. (25 mg./cc.) multiple dose vials.

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*T.M. Reg. U.S. Pat. Off. for chlorpromazine, S.K.F.
†T.M. Reg. U.S. Pat. Off. for sustained release capsules, S.K.F.

to give answers. But, make a checklist for your questions. Some of the important questions are printed in large type throughout this article.

Past experience has shown that the answers to these questions largely determine what kind of summer camp tour you will have.

Remember, all these items needn't wait for a personal interview for clarification. Many should be handled through your correspondence.

Salary

Since camps are having quite a bit of difficulty in getting doctors, you're in a shopper's market. Don't jump at the first salary offer (unless you are completely satisfied, of course). You will be in a position to negotiate a bit. Perhaps you might suggest a higher figure and then work back to a compromise.

Or, if the camp is particularly desirable from your point of view, work on a few possible fringe benefits which have not been offered. Such things as you wife's job or maintenance, and that of your own children, your days off, etc.—all are things which can be negotiated.

Don't undervalue your own usefulness to the camp. You *may* have to work your head off throughout the summer—in which case, it would be nice to have something in the bank to show for your efforts.

Incidentally, many private camps will offer you more in salary than will some of the organization camps such as the Scouts, fraternal groups, etc. But there is no "standard" rate. Perhaps it should depend on the number of children involved and how much each child must pay to come to the camp—but it doesn't.

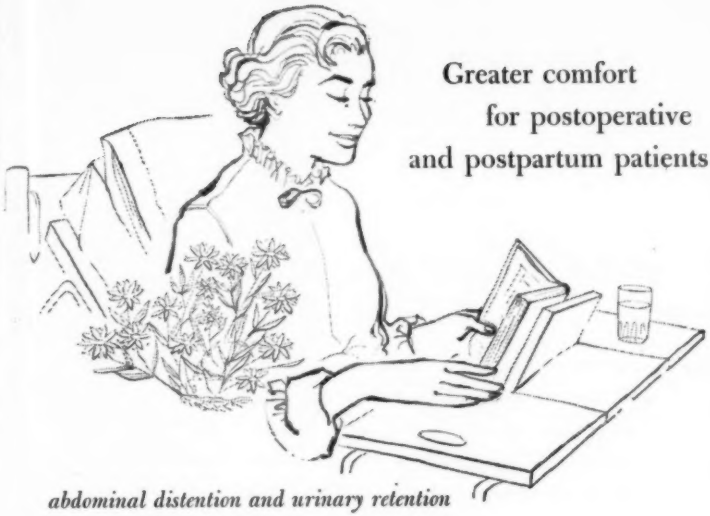
You will have to develop your own evaluation, unless you are working through a medical placement service.

Work plus relaxation

Of course you are expected to work. You are getting paid a salary for that. But at the same time make sure that you will have sufficient time and coverage for a reasonable amount of enjoyment and relaxation. It is too late to discover after you've worked for several weeks that you have tied yourself to a bad deal. Try to arrange for such things as salary and time off and equipment *before you sign.*

If the job fits, take it. Summer camp can be a refreshing experience after a long year in your hospital.

NEXT MONTH: **Vacations—Plain and Fancy**



Greater comfort for postoperative and postpartum patients

abdominal distention and urinary retention can often be prevented or promptly relieved —with less need for uncomfortable enemas and catheters

Urecholine.

Chloride
(Bethanechol Chloride)

'Urecholine' helps restore normal function after surgery and childbirth by increasing the muscular tone of the gastrointestinal and urinary tracts. Postoperative "gas" pains can frequently be prevented or promptly relieved—with less need for uncomfortable enemas, intubation, and suction apparatus. Micturition is facilitated—without the discomfort and risk of infection inherent in catheterization.

Administration and dosage: may be given prophylactically or therapeutically after surgery or childbirth. Usual oral dosage: 10 to 30 mg. three or four times daily. Usual subcutaneous dosage: 5 mg. three or four times daily.

Other indications: gastric atony and retention following vagotomy and other surgical procedures; chronic functional urinary retention due to atony without obstruction; megacolon, including congenital megacolon (Hirschsprung's disease); certain cases of paralytic ileus; to counteract side effects of antihypertensive ganglionic blocking drugs.

Supplied: 5 mg. and 10 mg. tablets, bottles of 100; 1-cc. ampuls containing 5 mg.

Urecholine is a trade-mark of MERCK & CO., INC.

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A house officer's income,
his wife's budget . . .

. . . and Baby Makes Three

Before her first son was born, the author was a window display designer. Now having settled down to a career as mother, doctor's wife, and "banker," she hopes her experience and hints on financing will prove useful to other house staff wives.

Jeanette Diamond Liemer

"HOW can you possibly afford to have a baby now?" This was the question I was asked over and over again when we were expecting our first.

The answer quite honestly is, you can't *afford* a baby. But then, neither can you afford your used car, your rent, or anything else for that matter. Not on a resident's stipend anyway.

You can, however, manage—with *planning*—to start your family while you are in residency. We did. And we're glad we did, too.

Like us, perhaps you'll be surprised at the many advantages available to you as a resident couple, advantages which add up to sound reasons for not postponing the blessed event.

Like most young marrieds, my husband and I love children. We looked forward to becoming parents ourselves. Naturally, as a resident couple, we had practically convinced

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for Rauwiloid IS better tolerated ..."alseroxylon [Rauwiloid] is an antihypertensive agent of equal therapeutic efficacy to reserpine in the treatment of hypertension but with significantly less toxicity."

*Ford, R.V., and Moyer, J. H.: Rauwolfia Toxicity in the Treatment of Hypertension, Postgrad. Med. *23*:41 (Jan.) 1958.

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just two tablets at bedtime

After full effect one tablet suffices

Enhances safety when more potent drugs are needed.

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alseroxylon 1 mg. and alkavervir 3 mg.
for moderate to severe hypertension. Initial dose, 1 tablet t.i.d., p.c.

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alseroxylon 1 mg. and hexamethonium chloride dihydrate 250 mg.
in severe, otherwise intractable hypertension. Initial dose, ½ tablet, q.i.d.

Both combinations in convenient single-tablet form.

Riker
LOS ANGELES

ourselves that the economics of rearing offspring automatically meant we must wait.

Not a burden

However, a little investigation proved that contrary to the popular sentiment expressed by those who have been putting off having a baby (for periods of from one to twelve years) a baby during residency training is not at all burdensome.

You may be saying, "prove it!" Read on.

First of all, financial considerations, though certainly not far down the list of important factors to be weighed, are not of primary importance.

To us, the number one item is the real joy and genuine happiness that a child brings to the home.

No matter how you figure it out, this is one thing that can't be measured in terms of a husband's income.

Responsibility

Secondly, and practically, too, we observed that most young doctors just starting into private practice need their wives' full-time support. In most cases, the wife serves as secretary, receptionist, nurse, technician, social director, *et al.*

I think it's fairly well established that the young wife who has the responsibility of a newborn cannot be a full-time assistant in her husband's practice.

And, from the woman's point of view, I can welcome the reverse situation where my resident husband now has more time to help me with our baby. I also believe he really enjoys helping — certainly far more than he would if he were under the pressure of a beginning private practice.

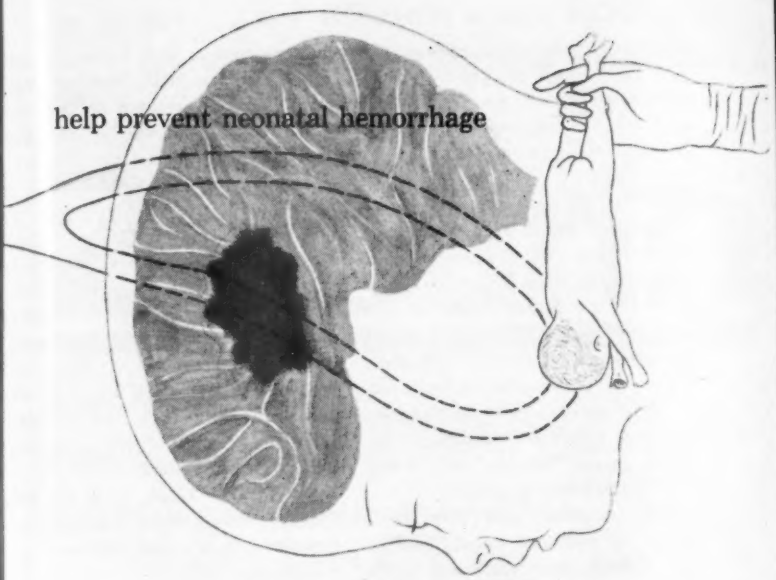
Together

Now, the weekends that he is off from the hospital can be devoted entirely to being with *us*. He isn't called out to see a patient; we can enjoy this luxury of "togetherness."

And finally, again from a wife's point of view, I can tell every resident's wife that a baby is wonderful company. Those long weekends and

About The Author

Jeanette Liemer met her future husband just after her graduation from high school and while he was pre-med at Cornell University. She went to New York University for a degree in Fine Arts, he to medical school at the State University of New York, College of Medicine. "By June, 1954," she writes, "after a rather long courtship, we each got a new title . . . Mrs. for me, Doctor for him." Dr. Liemer has now completed his residency in internal medicine at New York University — Post Graduate Medical Division at Bellevue Hospital.



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Dosage: Hemorrhagic disease of the newborn, 0.5 to 2 mg. prophylactically to the mother is usually adequate; if actual hemorrhage occurs, up to 10 mg., repeated if necessary, may be given to the newborn.

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*Council on Pharmacy and Chemistry: New and Nonofficial Remedies, Philadelphia, J. B. Lippincott Co., 1956, p. 505.

evenings my husband spends on duty pass much more quickly and pleasantly since our son was born. There isn't time to be lonely when you have an infant to care for.

Obstetrician

Having a baby is much less expensive than you might imagine, especially if you take advantage of the many courtesies extended to a doctor's family. The most important courtesy, of course, will come from your obstetrician. (And, doctor, there are not many indulgencies that your wife can have now, so do, by all means "indulge" her in the best medical care available.)

Many residents and their wives feel a bit awkward about "bothering" a busy obstetrician and think they are imposing on him by asking for his services. Actually, if your doctor is as wonderful as mine (don't let it shake you, but your wife will probably have a crush on him by the end of the third month), he will be flattered and pleased that you want him to deliver your baby.

Above all, you will receive the same expert attention and consideration as does the doctor's most affluent patient. You can definitely count on that.

Prospective father

By the way, make sure you let the obstetrician be the doctor in this case. Many obstetricians like to meet the prospective father early in the pregnancy; and unless you are a resident on OB, you probably don't know everything on the subject. You're bound to find this meeting enlightening . . . even if you are going in for OB-GYN.

Questions

Your wife will surely have lots of questions for you to answer about her pregnancy. Whatever you do, *don't give her your copy of "Eastman" and let her look it up for herself.* If she's like me and has little scientific background, she'll find some of the abnormal case illustrations rather upsetting to say the least. (And, if she has had nurses' training — she'll be anxious enough without your tactless contributions.)

Encourage her to take one of the prenatal or child care courses given in your community by the Red Cross, visiting nurse service or hospital. Her questions will be answered there. She'll learn lots of good pointers on having a baby and caring for it, too.

Hospital bill

Now, how about the hospital bill?

There are lots of ways to save on this item. Find out if your hospital gives a professional discount to doctors. Many do. Then, make sure that the business office knows you're an M.D. so your bill will be prepared properly. If you belong to Blue Cross, or other hospital care plan, that too, will cut your costs.

for pain ... as effective as codeine without codeine's liabilities

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NON-NARCOTIC

Potently Analgesic

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HOW
DR. AND MRS.
MANAGE

The Baby in The Bu

Income

Resident's stipend @ $104.00 per month	$1248.00
Wife's salary during first 4 months of pregnancy	960.00
Receipts from two published articles (medical journals)	150.00
Cash gifts from relatives when baby was born	130.00
Total	$2488.00

Expenses For Baby

— first year —

1 cotton suit @ 7.98 1 cotton dress @ 6.98 1 maternity bathing suit @ 7.98	$22.94
2 nursing bras 1 maternity garter belt 3 other sets of maternity separates	borrowed —
Hospital bill (plus Blue Cross and professional discount)	90.00
Birth announcements and stamps	5.00
Cigars for the boys (hardly Corona Corona's @ 2 for .25)	2.50
Crib, including mattress (hand-me-down) repainted	—
Chest, bought second hand and repainted	5.00
Lead-free paint	2.00
Carriage, gift from grandparents	—
White enamel bath tub (hand-me-down)	—
Sterilizer (hand-me-down)	—
Nipples, bottles, caps (some were free samples from manufacturers)	2.00
Feeding table	20.00
Play pen (borrowed)	—

The Budget

Play pen pad	1.98
Stroller (hand-me-down)	—
Toilet training seat	3.98
Diaper service, 3 months @ 2.25 per week (including professional discount)	27.00
Complete layette: kimonos, shirts, receiving blankets, bunting, sweaters, etc.; all hand-me-downs	—
1 crib blanket, gift	—
1 pram blanket, gift	—
4 fitted crib sheets	4.00
4 pair waterproof baby pants (received upon request from manufacturers)	—
Formula, vitamins, cereal for first 3 months (complimentary)	—
Total	$186.40

Budget

— first year —

Rent	$960.00
Food @ $15 per week	780.00
Baby's expenses	186.40
Blue Cross	60.00
Life insurance	70.00
Phone	67.80
Gas and electric	50.00
Medical Journals, etc.	30.00
Clothing	100.00
Recreation and entertainment	100.00
Slush fund	83.80
Total	$2488.00

Food

Baby's food in the beginning is no expense at all. If your baby is breast fed as ours was for a while, you won't even have to prepare formula. When you do need formula remember, some manufacturers will supply you with it free and by the case! Get in touch with the company representative at your hospital (or write directly to the company). You can also get all the baby cereals and vitamins you need just by asking.

Letters

There are many other items that can be had free of charge simply by writing for them. Samples of everything from nursing bottles to rubber pants will be sent to you if you contact the professional service divisions of manufacturers of baby products. Letter writing used to be a regular evening activity for me in the last months of my pregnancy. And if paid off, handsomely.

Diapers

Another item that some young couples don't know about is diaper service. It isn't too expensive and it makes life a lot easier in the beginning. Here too, you can get a professional discount for the asking. Sometimes as an added sales pitch, the diaper service will include free baby pictures of your infant or some other gift.

I think I should make mention here of the baby's layette. Many

---

BABY BOOM

All editors like to get mail from their readers. We do, too. Your comments and suggestions really help us to keep RP *your* journal.

So when we report that in the past month we've been snowed under by an unprecedented volume of mail, we hope you'll understand that we're not complaining. We're glad. But we're a little embarrassed, too.

Here's what happened. One of our readers with a long memory asked us for a reprint of an article on "cutting costs of the new baby," an original published in RP almost two years ago. We sent the reprint. We also decided to run the letter in our "Letters" columns in case a few other residents and interns were interested in the subject.

Then came the mail. (The house staff baby boom must be breaking all records.) Since we had nowhere near the number of reprints necessary to fill the requests, and because we've added 26,000 new readers since the baby article was originally published, (present circulation: 41,000) we are re-running the article on these pages. Cost figures have been updated where necessary. To all you infanticipators, our congratulations and best wishes on the new arrivals. ED.

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(Penicillinase Injectable,* SchenLabs)

THE FIRST SPECIFIC FOR PENICILLIN REACTIONS

- acts within an hour, lasts up to a week[1,2]
- one injection sufficient in 80% of cases[4]
- itching abates promptly[4]
- 97% of reactions clear in 12 to 96 hours[3,4]
- well tolerated[1,3]
- may be lifesaving in certain anaphylactic reaction cases[4,5]†

†*"For this reason, and from these studies, penicillinase* [NEUTRAPEN] *should be kept on hand in every doctor's office or hospital where penicillin is administered."*[4]

The new purified injectable penicillinase, NEUTRAPEN, aborts penicillin reactions. An enzyme, it catalyzes the hydrolysis of penicillin to penicilloic acid, which is nonallergenic. Current therapy—antihistamines, ACTH or steroids—treats effects. NEUTRAPEN counteracts the cause by neutralizing the penicillin itself, offering a new concept of treatment that promises safer penicillin therapy.

penicillin levels at zero 4 to 7 days[1,2] The action of NEUTRAPEN is specific, rapid and long-lasting. It inactivates circulating penicillin within an hour after injection, and continues effective for four to seven days.[1,2]

"highly effective"[4] NEUTRAPEN effected prompt and complete clearing of reactions in 45 of 52 cases reported by Zimmerman.[3] Given in the first month, one injection of NEUTRAPEN cleared the reaction in 12 to 96 hours in 97% of cases.[3] Becker[4,5] noted complete clearing of urticaria and angioedema within 24 to 72 hours in 42 of his 46 patients. The absence of relapses was termed "a major clinical achievement...."[4] Minno and Davis[6] reported "...prompt relief of itching...in nearly every case..." and complete clearing in all 42 cases.

well tolerated[1-7] Clinically, NEUTRAPEN has been shown to be well tolerated when used intramuscularly[4] and pharmacologically "...virtually non-toxic, even at dose levels several hundred times the minimum effective dose."[2]

may be lifesaving NEUTRAPEN may be lifesaving in anaphylactic reactions that occur an hour to several hours after injection of penicillin.[4,5] In such cases it "...may be given intravenously as well as intramuscularly."[4,5] For this reason, Becker says, "...penicillinase [NEUTRAPEN] should be kept on hand in every doctor's office or hospital where penicillin is administered."[4]

indications

Therapeutic: NEUTRAPEN is indicated in all cases of penicillin reaction except the immediate type of anaphylactic reaction.

Prophylactic: When drugs and vaccines (notably poliomyelitis vaccine) which contain small amounts of penicillin are given, it is recommended that NEUTRAPEN be administered concurrently to those patients (1) who are known to be sensitive to penicillin, and (2) who have a history of allergy.

Differential Diagnosis: In summarizing his experiences with NEUTRAPEN, Zimmerman suggests that its "...response may be considered a useful tool in the differential diagnosis of eruptions where penicillin is only one of several possible inciting allergens."[3]

dosage and administration NEUTRAPEN, 800,000 units I. M., injected as soon as possible after symptoms of penicillin reaction appear. If necessary, dosage may be repeated at 3-day to 4-day intervals. In anaphylactic reactions 800,000 units should be given intravenously as soon as possible and immediately followed by 800,000 units intramuscularly.

contraindications and side effects No specific contraindications. Some soreness at the site of injection, which may be accompanied by erythema and local edema, may be noted in some patients, but it is transient and not serious. The intravenous use of penicillinase has been reported to cause chills and fever in some cases.

supplied NEUTRAPEN is supplied in single-dose vials containing 800,000 units of purified injectable penicillinase as lyophilized powder. It is stable at room temperature in the dry state.

references (1) Becker, R. M.: New England J. Med. 254:952, 1956. (2) Chen, J. Y. P.; Bard, J. W., and Balsito, A. A.: Antibiotics Symposium, Oct. 3, 1957, in press. (3) Zimmerman, M. C.: Antibiotics Symposium, Oct. 3, 1957, in press. (4) Becker, R. M.: 106th Ann. Meet., A.M.A., New York, N. Y., June 5, 1957. (5) Becker, R. M.: Antibiotics Symposium, Oct. 3, 1957, in press. (6) Minno, A. M., and Davis, G. M.: J.A.M.A. 165:222, 1957. (7) Davis, G. M.: Discussion, Antibiotics Symposium, Oct. 3, 1957. (8) Zimmerman, M. C.: The Prophylaxis and Treatment of Penicillin Reactions with Penicillinase, Clin. Med., in press.

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parents, especially when they are expecting their first baby, tend to go overboard in buying clothing and equipment. Even if you can afford it, most of it really isn't necessary. We bought very little indeed for our son.

His sterilizer was used by two other residents' babies and we have since passed it along to another. You'll find that by asking around, you can amass much of the equipment needed. This includes a carriage, crib and play pen.

If you can borrow something, it is one less expense you'll have to meet. Don't feel self-conscious about borrowing either. Many practical young people do it. And most of those you borrow from will be glad to help you.

A list

Babies clothes are definitely outgrown before they are worn out. Our son had a wonderful layette, gathered from his five older cousins. I collected all the "hand-me-downs" before the baby came and had time to wash everything and note the items missing. Then I informed all would-be gift givers just what the baby still needed. In that way we avoided receiving any sterling silver teething rings or satin-quilted comforters.

Friend

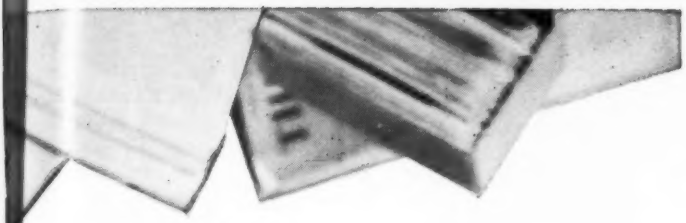
You will probably be told that your wife must have help when she first comes home from the hospital. Actually, she should. It's important that you plan in advance to have someone available. A practical nurse who has had experience with babies is best. If your budget won't permit, then a relative or friend who is willing to assist and who is easy to get along with, can do just as well.

Pediatrician

In planning ahead, remember too, that your baby will need a "personal physician," the pediatrician. Once again, it is a good idea for you not to be the doctor. Although you may think you are perfectly capable of taking care of your own child, you may find, as I did, that the one time our baby was ill and really needed a doctor, my husband was on duty at the hospital. I felt very secure indeed knowing that I could call our pediatrician, who had attended our baby since birth, and have him check the baby.

In addition, the pediatrician will give your baby monthly examinations, keep a record of his development and give the necessary injections and shots.

Saying 'Thank you' to your obstetrician, your pediatrician, or any other doctor who treats your family, is sometimes difficult. A sincere note expressing your feelings is surely what the doctor would appreciate most. We sent a small personal gift too, although we could never think of anything that would really express our gratitude to the doctors who have treated us. But they under-



Gastric distress accompanying "predni-steroid" therapy is a definite clinical problem—well documented in a growing body of literature.

"It is our growing conviction that all ...nts receiving oral steroids should ...each dose after food or with ade... buffering with aluminum or mag... hydroxide preparations."—Sig... W. and Ensign, D. C.: J. Kentucky ... M. A. 54:771 (Sept.) 1956.

***"The apparent high incidence of this serious [gastric] side effect in patients receiving prednisone or prednisolone suggests the advisability of routine co-administration of an aluminum hydroxide gel."—Bollet, A. J. and Bunim, J. J.: J. A. M. A. 158:459 (June 11) 1955.**

One way to make sure that patients receive full benefits of "predni-steroid" therapy plus positive protection against gastric distress is by prescribing CO-DELTRA or CO-HYDELTRA.

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provide all the benefits of "Predni-steroid" therapy—plus positive antacid protection against gastric distress

...o-Hydeltra.
PREDNISOLONE BUFFERED

2.5 mg. or 5.0 mg. of prednisone or prednisolone, plus 300 mg. of dried aluminum hydroxide gel and 50 mg. magnesium trisilicate, in bottles of 30, 100, and 500.

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stand that; that's one reason they became doctors.

Budget

I suppose I've become quite adept at balancing the budget. Looking at it from one point of view, it's almost easy when you don't have much money to work with and only essentials to cover. Like many young women today, I had planned to work throughout my pregnancy. This seems to be a trend not only among financially hard-pressed resident's wives, but also for lots of energetic, ambitious career gals.

Unfortunately, I had to stop working after my fourth month. I was getting too big to fit into some of the windows I had to decorate! Then too, my job involved a lot of bending, stretching, crouching and lifting. So we decided to forego the pay checks in favor of less strenuous activity for the remainder of my pregnancy.

Expenses

But the money I earned during those first four months was put aside, and slowly doled out at $15.00 per week for food and minor household necessities. Of course, we had to start paying a bigger milk bill when the baby was three months old and no longer on formula, but we managed that out of our own food allotment.

As the free samples of baby and junior foods started to dwindle we had to pay for that too, but only for a short while. Fortunately, our son took to eating regular table food early. (He didn't have a tooth in his mouth at the time and heaven only knows how he managed to chew . . . but he did.) I started with home made applesauce, mashed bananas and canned or frozen vegetables. Then came hamburger, chicken, or anything else we were eating that day.

He eats everything now from tomato herring to salami. He's hardly what you could call a feeding problem.

Shoes

Baby's shoes can be a big expense, but once again we were spared. Our pediatrician decreed, "No shoes until the baby is ready to walk."

That was just fine as far as we were concerned, and since the weather was mild (spring and summer) during his 'pre-walking' stage we just kept socks on the baby's feet to protect them.

Now, however, at 18 months, we find shoes at $6 a pair an added expense.

By the end of David's first year we even managed a family vacation. How? Well, again with planning. My husband worked during his vacation at a children's summer camp as the camp physician. Daddy, junior and I had a month in the country with pleasant company, lovely country-side, a beautiful lake, and a check at the end of it for "professional services rendered."

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. . . Makes four

We've put our camp money aside now as we plan our budget for the coming year . . . and our next addition, due in March. We'll have to revise the budget a little for our growing progeny — but by now I'm an expert on "high finances."

Lest some of the above sounds a bit too rosy to be convincing, let me assure you that one's attitude and willingness to be happy on a very limited income can make all the difference in the world. It did with us.

Taking all things into consideration, beginning our family during my husband's residency training was not the struggle I thought it might be. We are well on the way toward our second, and we're happier than ever. Of course, you residents who have children know what I mean. Those of you as yet without children—well, take another look at the "facts of life" balance sheet.

And, if you think this is a pitch for you to have babies now—you're right.

One happy experience deserves another.

FLATTERY WILL GET YOU

The following incident, which occurred in my office, has made me wonder if we G. P.'s look as shabby as a patient of mine would have led me to believe one day.

I had just gotten my middle-age "specs" for reading and was wearing a suit recently returned from the cleaners. The patient, a woman of about sixty who had been under my care for about twelve years, drew back and exclaimed: "Doctor, you look so nice today with your glasses and that pretty suit. Why, you look exactly like a specialist!"

E. H. A., M.D.
Washington, D. C.

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Fourth of a Series

Medical Ethics and Etiquette

Perrin H. Long, M.D.

Section 4. "The medical profession should safeguard the public itself against physicians deficient in moral character and professional competence. Physicians should observe all laws, uphold the dignity and honor of the profession and accept its self-imposed disciplines. They should expose without hesitation illegal or unethical conduct of fellow members of the profession."*

From the ethical point of view this principle expresses three lofty concepts of our profession which, because it deals uniquely with the prevention or treatment of suffering, and hence its members develop intimate human relationships with their patients, should maintain itself in an atmosphere of different composition than that of nonprofessional individuals.

It is obvious under this Section that physicians should observe all laws, as well as those regulating the practice of medicine, and that they will not help others to evade the law. Furthermore, to uphold the dignity and honor of the profession (the duty of all physicians), its members should keep individuals who show evidence of being deficient in moral character or education out of the practice of medicine.

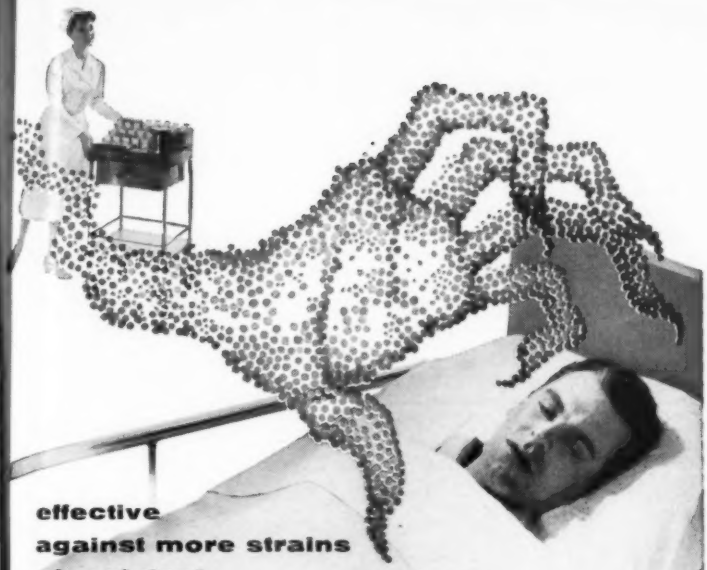
In line with this principle, physicians should always expose dishonesty, corruption or unethical conduct on the part of other physicians.

Questions of conduct should be considered first through recourse to the judicial bodies of local medical societies. If there is any doubt as to the legality of a doctor's actions, the judicial body should enlist immediately the aid of lawful authorities.

Obligation

I have been puzzled and interested in the use of the word *should* in this Section, as it occurs in each of the injunctions. *Should*, used in the third person, is expressive of authority or compulsion on the speaker's part (i.e. the House of

* *Principles of Medical Ethics.* J.A.M.A. *164:* 1484 (July 27), 1957.



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1. Pulaski, E. J., and Isokane, R. K.: Surg., Gynec. & Obst. 104:310, March 1957.
2. Petersdorf, R. G., Curtin, J. A., and Bennett, I. L.: Arch. Int. Med. 100:927, December 1957.

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PREAMBLE

"These principles are intended to aid physicians individually and collectively in maintaining a high level of ethical conduct. They are not laws, but standards by which a physician may determine the propriety of his conduct in his relationship with patients, with colleagues, with members of allied professions and with the public."

Delegates), and also expresses at the same time a moral obligation to conform on the part of the reader of this Section.

I wonder whether this was the intent of the Judicial Council and House of Delegates, for, as I am sorry to say, our natural morals and behavior are such that Section 4 is sometimes observed in the breach.

I believe all will agree that if a physician is proven to be adulterous, he may be considered to be deficient in moral character. But I have wondered about how many physicians have been expelled by their local or state society, or even from the American Medical Association, when adultery has been proved in a court of law? Nothing seems to happen even if the adultery has occurred with a patient! Furthermore, conviction for drunken driving, for income tax fraud, for manslaughter, and for other instances of felonious conduct, does not necessarily result in a revocation of the license to practice medicine. Occasionally the physician's license will be suspended for a year. It is, as a rule, only convictions for narcotic offenses, criminal abortion, rape, or murder which results in serious punitive action being taken against a doctor by medical societies or licensing boards.

This attitude in part results from the fact that licensing of all types in this country is a power generally retained by the states under our Constitution, and also may be the result of the impact of concepts of moral and ethical conduct which are diverse in their origins and standards.

Discipline

Today in England, I would judge from reading the proceedings of the sittings of the General Medical Council, the observance of the three concepts contained in Section 4 is far more rigorous than in this country. Actually, drunkenness, adultery, gross malpractice, and other instances of bad conduct on the part of a doctor leads to an inquiry and often a hearing by the General Medical Council and the disciplining of the guilty is prompt, and in American eyes, frequently very severe.

This results from the fact that for a hundred years the members of the General Medical Council, by statute, have been charged with pro-

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cedures for admitting to or removing physicians from the Register, with promoting the maintenance of high ethical standards, and with disciplinary procedures relative to their erring colleagues. This group has received wide public, as well as governmental, support over the years, mainly because of the promptness and fairness of their judicial proceedings, and the knowledge that their decisions are in the interests of the patient. The Council acts above the common herd.

Concepts maintained

There is nothing in this country which resembles the General Medical Council and under our constitutional system it would appear that nothing similar can be established. Human nature being what it is, one can only hope that through self-discipline and self-enforcement, the concepts contained in Section 4 will be maintained, because, in many instances, neither medical society, nor legal action, will result from the violation of these concepts.

Furthermore, if physicians are going to advance their profession, they must be members of medical societies and work in them, so that the ideals of the profession may be properly and broadly represented.

Having become a member of such a society, the physician must remember that for the good of the profession, and of the society, any dispute he may have with another physician in matters of opinion, or interest, should be arbitrated by an official body of his local medical society. It is not good for members of the profession to wash their dirty linen in public.

Lastly, and to my way of thinking, rather curiously, a point of medical etiquette dealing with the entertainment of physicians by physicians for social, or for obligatory reasons (both permissible), is considered to be covered by the wording of this Section.

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If you intend to take a residency at another hospital beginning in July, please drop a postcard in the mail to us. List:

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Mediquiz

These questions are from a civil service examination recently given to candidates for physician appointments in municipal government.

Answers will be found on page 193

Questions one to three are to be answered after consideration of the facts presented in Case A which is described below:

Case A:

A patient is brought to a hospital after he has been knocked down by a truck. He has extensive contusions, abrasions and lacerations:

1. Patient would be given tetanus toxoid if he had: (A) dirt in his wounds; (B) a history of serum sickness; (C) been a discharged soldier with the Purple Heart; (D) a history of previous injections of tetanus antitoxin.

2. Patient in Case A would be given tetanus antitoxin because he: (A) was under 25 years of age; (B) had a history of previous injection of antitoxin; (C) had a history of previous injections of tetanus toxoid; (D) had no history of previous injection of tetanus toxoid.

3. If patient in Case A was treated with tetanus antitoxin and developed serum sickness, "lymphadenopathy" would be expected to develop: (A) regional to site of injection; (B) in a generalized fashion; (C) regional to both A and B; (D) regional to site of wounds.

4. Sulfadiazine is usually efficacious in the treatment of pneumonia caused by: (A) tubercle bacillus; (B) Friedlander bacillus (Klebsiella pneumoniae); (C) Hemophilus influenzae; (D) streptococcus.

5. An electrocardiogram displaying a depressed S-T segment and an inverted T-wave in Leads I, VL, and V5 in a patient with cardiovascular syphilis would make one suspect: (A) gumma of the myocardium; (B) left ventricular hypertrophy with or without coronary osteal stenosis; (C) diffuse syphilitic myocarditis; (D) aneurysm of the ascending aorta.

6. A 30-year-old male, about twenty pounds overweight for his age and height, is subjected to a glucose-tolerance test with the following results: fasting blood sugar—90 mgms per 100 cc, fasting urine specimen—contains no sugar. 100 grams of glucose are fed to him after the specimens have been collected, and subsequent tests show the following: blood sugar, one hour after glucose ingestion, 204 mgm per 100 cc; urine sugar, one hour after glucose ingestion, .25%; blood sugar, two hours after glucose ingestion, 90 mgm per 100 cc; urine sugar, two hours after glucose ingestion, faint trace. This man has a sugar-tolerance curve which demonstrates: (A) normal curve; (B) diabetic type (decreased sugar tolerance); (C) increased sugar tolerance; (D) alimentary glycosuria.

7. Untreated syphilis will cause clinical cardiovascular involvement in: (A) 100% of the cases; (B) 75% of the cases; (C) 50% of the cases; (D) less than 25% of the cases.

8. Elevation of serum amylase is most frequently found in: (A) carcinoma of the breast; (B) carcinoma of the body of the pancreas; (C) mumps; (D) chronic cystic fibrosis of the pancreas.

9. In a patient with normal renal function, simple dehydration due to water withholding for 2 to 3 days results in a 24-hour output of urine of approximately: (A) 1500 cc.; (B) 600 cc.; (C) 100 cc.; (D) 50 cc.

10. In the absence of symptoms and cardiac enlargement, a blood pressure reading of 210/100 mm. Hg would suggest a diagnosis of: (A) anxiety; (B) sclerosis of the aorta; (C) hypertensive heart disease; (D) essential hypertension.

11. The electrocardiogram reveals the time of conduction from the sino-atrial node to the subendocardial ventricular muscle by the length of: (A) QRS interval; (B) Q-T interval; (C) P-R or P-Q interval; (D) P-T interval.

12. A man falls over the railing of a staircase and fractures three ribs in his right chest. In the next few hours, he has severe hemoptyses, and examination of the chest reveals dullness to flatness on percussion over the lower ¾ of the right chest, absent breath and voice sounds in this area, and hyperresonance is noted under the right clavicle. In addition, the left border and cardiac dullness on percussion are found at the anterior axillary line. The most likely diagnosis is: (A) cardiac enlargement and congestive heart failure; (B) uncomplicated rib fractures; (C) pneumonia complicating fractured ribs; (D) hemopneumothorax.

(Answers on page 193)

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What's the Doctor's Name?

by James F. Gallagher

He was born in Hoya, Hanover, in 1769 and died in Jamaica, W. I., in 1821. He studied medicine at Gottingen and practiced in Karlsruhe and Paris, specializing in diseases of the eye. During the dark days of the French Revolution he helped Viccomte Louis de Narbonne, former minister of war, escape from France to safety in England. In London he met Lally-Tollendal who induced him to go to Austria to learn where General Lafayette was kept imprisoned.

He established himself as a physician in Vienna. Learning through some astute detective work that Lafayette was a prisoner at Olmutz he formed a plan to rescue him with the aid of Francis Kinloch Huger, a young American medical student, and the unwitting assistance of the prison doctor. Communicating their plans to Lafayette through the

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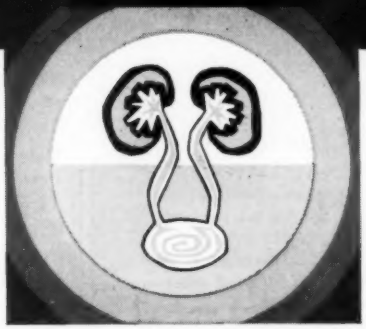

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*Kipp, J.P.: Digest Ophth. & Otolaryng. 20:28 (Nov.) 1957.

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5825

prison surgeon, the two fell upon his guards while he was taking exercise in a carriage and succeeded in getting him away on a horse. However, Lafayette rode in the wrong direction and was captured. Our doctor-instigator escaped to Prussia, but was later handed over to the Austrian authorities. He was imprisoned for nearly a year, then released and ordered to leave the country.

He came to the United States and was well received. President Jefferson offered him the consulate at Rotterdam in 1803 and the Indian Agency at Natchitoche, Lousiana in 1805. In 1806 he was implicated in Aaron Burr's conspiracy and was Burr's agent in New Orleans. His trial with that of Swarthout, another Burr man, before Chief Justice Marshall of the Supreme Court is an important one in American legal history, since it established the principle of no treason without an overt act.

His subsequent career, though less theatrical, continued to touch the periphery of adventure and intrigue.

He revisited Austria in 1814-15 while the Vienna Congress was in session, full as always of schemes that were as resourceful as they were disappointing. Then he went off to South America as an agent of Baring Brothers, met Bolivar and won options on the quicksilver supply. He died of fever on his way back to the States.

Can you name this doctor without turning to page 193.

VIEWBOX DIAGNOSIS

(from page 21)

BONE INFARCT

Note the calcified lesion in the upper end of the shaft localized to the medullary cavity, the site of a previous infarction.

●

MEDIQUIZ ANSWERS

(from page 188)

1(C), 2(D), 3(B), 4(D), 5(B), 6(D), 7(D), 8(C), 9(B), 10(D), 11(C), 12(D).

●

WHAT'S THE DOCTOR'S NAME?

(answer from page 192)

The doctor is Justus Erich Bollmann

●

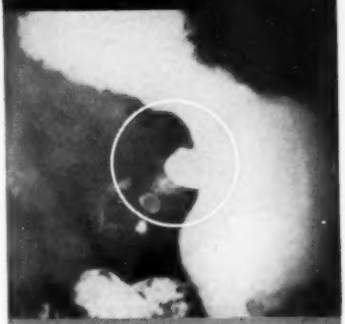
RESIDENT RELAXER

(puzzle on page 27)

A	C	U	S		A	D	E	P	S		A	T	O	M
D	O	N	E		L	I	L	L	E		M	E	G	A
A	N	I	S	O	M	E	L	I	A		I	L	L	S
M	E	T	A	G	E			C	R	A	D	L	E	S
			M	E	N	A	I		C	C	I			
I	N	Q	U	E	S	T	S		H	I	N	G	E	D
N	E	U	M			T	O	B	E	D		A	P	E
D	U	E		A	M	A	T	O	R	Y		P	I	A
O	R	S		B	O	R	O	N			P	E	E	L
L	O	T	I	O	N		P	E	S	V	A	R	U	S
			P	R	O		E	S	T	E	R			
S	T	R	E	T	C	H			E	T	E	R	N	E
E	R	I	C		L	A	C	E	R	A	T	I	O	N
N	E	M	A		E	L	I	T	E		I	C	E	D
A	S	S	C		S	T	O	A	S		C	E	S	S

Gelusil

antacid adsorbent



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RP REVIEWS BOOKS

About Doctors

Conducted by SAUL A. KUCHINSKY

THE CENTURY OF THE SURGEON. *Thorwald, Jurgen. N. Y., Pantheon,* 1957. 432p. $5.95.

When writing style and subject matter are happily wedded, the result is a reading experience that gratifies and teaches at the same time. We can't recall any history of surgery, even Harvey Graham's fine "Surgeons All," that is so fabulous a combination as this one.

The author uses an unusual device in his narration. A fictional doctor tells the story and visits, by luck, of course, each of the pioneers in surgery and those medical arts most necessary to surgery.

Thus we are introduced to Civiale of bladder stones, Carpue of plastic surgery of the nose, the Wells-Jackson-Morton trio of anesthesia, Semmelweis of puerperal fever, Lister of asepsis, Billroth of the operations in gastrointestinal surgery, Fitz, Morton, McBurney and John Murphy of appendectomy and Rehn of heart surgery.

The tragic story of the self-centered Jackson, the opportunist Morton and the idealist Wells is particularly compelling, as Wells discloses the facts of anesthesia to the others and becomes a suicide after recognition has been denied

him and he has become, by self-experimentation, a chloroform addict.

The writing style is hypnotic. The book takes its place with Gerald Green's "The Last Angry Man" as one of the two most exciting books about doctors in recent years.

WILLIAM HARVEY. *Chauvois, Louis. N. Y., Philosophical*, 1957. 271p. $7.50.

The author is a distinguished Latinist, Laureate of the Institute and Academy of Medicine in his native France. He has written here a careful piece of scholarship in analysis of the great Harvey's writings and an unsuccessful picture of Harvey as a person.

First, as to the scholarship, it is no mean feat to translate medical Latin, the language in which Harvey did much of his writing, and when we see in illustration the chicken-tracks that represent Harvey's personal shorthand in mixed Latin and English, we marvel that anything at all has been made of them.

As to portraiture of the man, the scholar never allows the writer to make much headway. Authorities called in, footnotes and all, blotch the picture. Recreated dialogue is totally absent. The author's enthusiasm for his subject as a man "intensely human" is not conveyed to the reader.

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